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Thesis

THE INTERPRETATION OF PLATO'S TIMAEUS BY A. E. TAYLOR AND F. M. CORNFORD

by

Robert Harold Whitaker

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Approved

by

First Reader Edgar S. Brightman
Professor of Philosophy

Second Reader L. Harold DeWolf
Associate Professor of Philosophy

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CHAPTER I

INTRODUCTION: THE PROBLEM AND METHODS USED

The problem. Recognizing that the Timaeus of Plato has been subjected to a number of varying interpretations throughout the centuries,--explanations which extend all the way from the grossest literalisms to the most fantastic attempts to allegorize--the preliminary task which confronts the writer is that of defining or determining the basic line of argument used in the dialogue. Indeed, probably no similar piece of literature (with the possible exception of the Genesis of the Judaeo-Christian Old Testament) has suffered more at the hands of its friends,--and this, largely because of failure to grasp the basic argument which Plato set forth. The first aspect of the problem, therefore, is that, without regard to the idiosyncratic and often extreme suggestions of former commentators, the Timaeus be re-examined in an attempt to discover exactly what Plato said. Is the Timaeus merely a Platonic Bible of disconnected proof-texts to be quoted in support of various and sundry doctrines of religious mystics, poets, and philosophers, or is there a basic line of argument upon which even philosophers may agree? It will be assumed that there is such a basic argument which should form the least common denominator of any exposition of the dialogue in question. Therefore, the question arises, what was Plato's purpose in writing the Timaeus? What is the main thrust of his argument? What is the central problem of the

dialogue, and what is the hypothesis which Plato brought forward as a possible solution for this problem?

A mere determination of the fundamental course of Plato's argument is only a beginning, however, for there are certain great monumental works relative to the Timaeus which also demand consideration such as the Timaeus Locrus, Aristotle's De Caelo and De Generatione et Corruptione, Plutarch's Generatio Animae Timaeo, Ritter's Untersuchungen über Platon, Lutoslawski's Origin and Growth of Plato's Logic, as well as a host of other notable works. Furthermore, a review of the Platonic literature of the centuries reveals such pioneering works as Chalcidius's translation and commentary up to 53c, the commentary of Proclus (extant as far as 44d), T. H. Martin's Études sur le Timée de Platon, and Archer-hind's translation and commentary which up to two decades ago was still the standard work in English par excellence. The year 1927, however, saw the completion of A. E. Taylor's monumental opus which was immediately recognized not only as the greatest in its field since that of Archer-Hind but even as far superior to it. Since, in a project of such limited scope as this, it would be next to impossible, and probably of somewhat questionable profit to seek to delve into the more ancient works on the Timaeus,--although it is recognized that there is a veritable mine of material available to any student whose interests are directed along paleographical lines--, this study centers largely upon Taylor's now famous commentary. An attempt will be made to discover Professor

Taylor's distinctive approach, the specific aspects of the Timaeus which he deems worthy of particular emphasis, and the peculiar principles of interpretation which he has employed.

While, obviously, a great improvement upon previous works and the recognized product of unquestionably thorough scholarship, Taylor's commentary was not to remain the unquestioned champion of its field, for the somewhat comfortably secure reign of a decade was challenged in 1937 by the publication of F. M. Cornford's Plato's Cosmology. Likewise the product of thorough scholarship, Cornford's work is worthy of close study by the contemporary student of the Timaeus. Thus, in addition to an examination of Taylor's work, frequent reference will be made to this later work, in an attempt, as with that of Taylor, to discover the particular standpoint of the author, his special emphases or interpretations, and finally what principles he has employed as the fundamental guides to his exposition of the Platonic cosmology.

Simply to analyze these two standard works of Taylor and Cornford in isolation would be to miss the great opportunity of comparing and contrasting the views of two great scholars of the present day. Upon what principles of interpretation are they agreed? How does the basic thought of Plato's own argument fare at the hands of Taylor and Cornford? Have they been able to contribute any new interpretations or distinctive answers to the problem which the great poet-philosopher propounded?

Finally, since the works of Taylor and Cornford are hardly the Law and Gospels of cosmological metaphysics, criticisms of the two interpretations will be proposed. In addition to this, certain original appraisals and interpretations will be applied to the great cosmological problem which has one of its classic formulations in the Timaeus of Plato.

Purpose. The purpose of this project is that, through an examination of the commentaries of Taylor and Cornford on the basis of a close study of the Timaeus itself, it may be possible to ascertain whether or not the dialogue rightly may be considered a serious attempt on Plato's part to furnish the scientific-philosophical world with a genuine cosmology. If it is decided that the Timaeus is a genuine cosmology, the question must then be asked as to the permanent value of this dialogue as a cosmology, i.e., what great truths or metaphysical principles for the interpretation of reality are set forth and still to be regarded as valid and, therefore, applicable in contemporary science, philosophy, and philosophy of science.

Methods used. In Chapters II through IV, the analytical method is to be employed both on the Timaeus itself in determining the main line of its argument and on the expositions of Taylor and Cornford as their distinctive interpretations are pointed out. In Chapter V, as the findings and conclusions of this study are set forth, the aim will be to present a synoptic

Gestalt of the dialogue as a whole in the form of an appraisal of the permanent value and significance of the *Timaeus* as a cosmology.

CHAPTER II

AN ANALYTICAL SURVEY OF THE ARGUMENT OF THE TIMAEUS

That a basis for later criticism and discussion may be provided, Chapter II will offer an analytical survey of the argument of the Timaeus. This analysis will discuss, the relation of the introduction to the argument of the Timaeus as a whole, the author's approach to the problem, the problem itself, the interpretation of the universe, including a discussion of the soul of the world, the products of reason, the things which come of necessity and the interaction of reason and necessity, and, finally, the significance of the description of the making of man. Only in view of an understanding of this fundamental plan of the dialogue as a whole will it be possible to intelligently discuss the distinctive principles of interpretation employed by Taylor and Cornford which will be considered in Chapter III.

The relation of the introduction to the argument of the Timaeus. In the introduction of the Timaeus, Plato has presented the dramatic background against which the problem under consideration is to be discussed. The dialogue begins with the discovery that one of Socrates' guests of the previous day is missing. Socrates himself, of course, is present, as are also Timaeus, Critias, and Hermocrates. The latter three gentlemen are Socrates' hosts for the day. But as to who the missing host is, the reader is left in the dark. While he probably will remain a figure shrouded by our own ignorance, it is of interest

to note that of all the conjectures as to the identity of this person, the suggestion that it may be Plato himself seems to receive the most unanimous approval from the critics. Yet this suggestion is somewhat preposterous. Plato was born about 427 B.C. and this conversation probably took place around the year 421 B.C.! Thus, while it would be most satisfying to the curiosity to identify this unknown character, the suggestion of Taylor (following Proclus) that even Socrates did not know his name seems to be as satisfactory as any hypothesis which has been offered to date, and certainly more reasonable than that of Archer-Hind who seems to have set the ball rolling in the direction of the hypothesis that this person was Plato himself.[1] Whoever it may have been, however, the fact was that one of the hosts was absent and thus the pleasant task of entertaining Socrates devolves upon the three remaining hosts. After a review of the discussion of the previous day, which is a condensation of the main argument of the Republic, Socrates, being deeply moved by the discussion of the ideal state, is prompted to give vent to his feelings.

> I may compare my feeling to something of this kind: suppose, for instance, that on seeing beautiful creatures, whether works of art or actually alive but in repose, a man should be moved with desire to behold them in motion and vigorously engaged in some such exercise as seemed suitable to their physique; well, that is the very feeling I have regarding the State we have described.[2]

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1. Archer-Hind, TP, 54ff. and Taylor, CPT, 45.

2. Bury, Tim., 19B.

Following several minutes spent in mutual admiration by the four men (a technique which Plato very skillfully uses to introduce the other members of the dialogue), Critias, particularly desirous of satisfying the longing expressed by Socrates, relates a tale which he heard as a boy from the lips of his grandfather. Originally, the story was reported to have been heard by Solon during his travels in Egypt. This tale now is recognized as the familiar classic, the legendary war and destruction of Athens and Atlantis, which Critias only presents in brief outline for Socrates' approval. Upon receiving his approval, Critias is ready to begin a more complete account of the story. But, says Critias,

> seeing that Timaeus is our best astronomer and has made it his special task to learn about the nature of the Universe, it seemed good to us that he should speak first, beginning with the origin of the Cosmos and ending with the generation of mankind.[3]

Following the narration of Timaeus, the plan was that Critias would pick up the conversation and give his contribution to the dialogue. This being agreed to, Timaeus, after invoking the guidance of the gods and goddesses, started his part of the discussion.

From this synopsis, it would seem obvious that the introduction has little if any vital connection with the central argument of the dialogue. To be sure, there is the problem, which will be considered later, as to whether or not Plato was

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3. Bury, Tim., 27B.

recounting a genuine historical conversation.[4] Thus it seems reasonable that the introduction should be regarded as merely the dramatic back-drop of the stage preparatory to the actual statement of the problem in the body of the dialogue.

Plato's approach to the problem. Not willing to drop the reader suddenly into a labyrinthian maze of a partially developed argument, Plato is careful to provide two very clever transitional paragraphs which are of important note.[5] Timaeus clearly states that since they are about to deliver a discourse concerning the Universe (περὶ τοῦ παντὸς λόγους), propriety demands that all they say be approved by the gods in the first place, and secondly by themselves. Therefore, it is their duty both to invoke the aid of the gods and to invoke themselves to insure a clear exposition (ἐγὼ δὲ ᾗ διανοοῦμαι μάλιστ' ἂν) of the subject before them. Finally, as Timaeus begins to define his terms, the reader realizes that he has been introduced to the main topic of the dialogue. From this point on Timaeus is delivering a metaphysical lecture. Not only because it is one of the most famous passages of the dialogue, but because it contains definitions, razor-like in precision and clarity, the writer quotes the beginning of this splendid prelude to the main problem.

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4. Chapter III, 20, 21.

5. Bury, Tim. 27C-28A.

Ἔστιν οὖν δὴ κατ' ἐμὴν δόξαν πρῶτον διαιρετέον τάδε. τί τὸ ὂν ἀεί, γένεσιν δὲ οὐκ ἔχον, καὶ τί τὸ γιγνόμενον μὲν ἀεί, ὂν δὲ οὐδέποτε; τὸ μὲν δὴ νοήσει μετὰ λόγου περιληπτὸν ἀεὶ κατὰ ταὐτὰ ὄν, τὸ δ' αὖ δόξῃ μετ' αἰσθήσεως ἀλόγου δοξαστὸν γιγνόμενον καὶ ἀπολλύμενον, ὄντως δὲ οὐδέποτε ὄν. πᾶν δὲ αὖ τὸ γιγνόμενον ὑπ' αἰτίου τινὸς ἐξ ἀνάγκης γίγνεσθαι. παντὶ γὰρ ἀδύνατον χωρὶς αἰτίου γένεσιν σχεῖν.[6]

The first problem, therefore, is the classification of existence (not existence in the contemporary space-time sense, but existence in the pure ontological sense, "isness"--τὸ ὂν as opposed to τὸ γιγνόμενον...ἀεί). The following statement by Professor Whitehead is an acute appraisal of the significance of these two principles in Plato's thought.

> Plato found his permanences in a static, spiritual heaven, and his flux in the entanglement of his forms amid the fluent imperfections of the physical world. Here I draw attention to the word 'imperfection.' In any assertion as to Plato I speak under correction; but I believe that Plato's authority can be claimed for the doctrine that the things that flow are imperfect in the sense of 'limited' and...'definitely exclusive of much that they might be and are not.' The lines...from the hymn ["Abide with me; Fast falls the eventide."] are an almost perfect expression of the direct intuition from which the main position of the Platonic philosophy is derived.[7]

The unchanging realm of being is regarded as the higher of the two. It is a realm characterized by objects of rational understanding which is expressed (μετὰ λόγου), i.e., in discursive argumentation as in mathematics and dialectic which, alone, according to Plato can yield a thoroughly grounded grasp of truth and reality. Furthermore, it is pointed out that

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6. Tim., 27D-28A.

7. Whitehead, PR, 318.

rational understanding is always associated with a true account of reality (ἀεὶ μετ' ἀληθοῦς λόγου), in contrast to true opinion, because it is ἀλόγον and can give no rational or reasoned account of its own nature. Moreover, said Plato through the mouth of Timaeus, whatever becomes must have a cause. Summarizing this approach, it is found that Plato has presented three distinct arguments as a basis for his later discussion. For the sake of future reference, it may be well to enumerate these three theses. First, that which is eternal is the intelligible and, on the other hand, what comes to be is the sensible. Because the world is sensible, it must be a thing which comes into being. Second, that which comes to be must have a cause. From this, it may be drawn that the world had a cause, i.e., a maker or father, but who because of his nature is difficult to discover. Third, only if the maker fashions his work after an eternal model will it be good. Thus, since the world is good, its maker must have utilized an eternal model.[8] Finally, it is of interest to observe the distinction which is made between δόξα and ἐπιστήμη. The latter term, which is used several pages later, refers to knowledge in the sense of correct understanding based upon accurate judgment, whereas δόξα, used in the immediate context, regularly means a judgment which is not

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8. Cf. Cornford's exposition of these three theses, PC, 21-22.

strictly true, but, at least partially erroneous.[9] It is thus that τὸ γιγνόμενον may be spoken of (to use Parmenides's terminology) as an object of opinion, ("the Way of Opinion"), i.e., τὸ δ' ἐν δόξῃ μεταίσθήσεως ἄλογον as opposed to "the Way of Truth." The point which Plato has made would seem to be that, while observing that all physical or scientific investigations are marked by an uncertain and hypothetical character, the theoretical explanations which he has offered are to be regarded as a summary of the best knowledge available de rerum natura.[10] Recognition of Plato's point of view here will be found of crucial value in weighing one of the important problems with which this study deals.

The interpretation of the universe. As has already been pointed out, 27C is the real beginning of the so-called "cosmology" which constitutes the main body of the dialogue. As Taylor observes, "from this point all pretense of conversation is dropped. We are really listening to an unbroken scientific lecture, a διατριβή in its basic Hellenic sense."[11] Whatever may be decided later by way of evaluation of the dialogue as to the scientific worth of this cosmological section as exact

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9. Note that Taylor renders δόξα by 'belief' or 'judgment' in the place of Jowett's (as well as Bury's) 'opinion.' Whitehead observes that "Taylor's translation brings out the Platonic influence in Descartes' Meditations, namely Plato's δόξα is the Cartesian judicium." Whitehead, PR, 126, n.9.

10. Bury, Tim., 6.

11. Taylor, CPT, 59.

science, one should, at least, grant that in the dialogue as such, this section is obviously intended as a lecture in metaphysics.

Upon concluding the introductory, yet nevertheless important distinctions and definitions of terms, the narrator proceeds with an exposition of the soul of the world. The cause of becoming had been labeled as a perpetually sustaining cause, a maker or father of the universe, who is difficult to find and "impossible to declare unto men." This maker eventually is represented as a craftsman (δημιουργός) who by following an external model was able to produce the visible world. The motive for the Demiurge's creation of the world was that "all should come so far as possible like unto himself."[12] From this point, 29D, through 47E the general subject of discussion is the products of reason. The soul of the world is the first of these products. One world, not many, has been created and from this, it is drawn that Plato intended that we view the universe as one integrated whole. This whole, the body of the world itself, consisted of four primary and fundamental bodies, viz., fire, air, water, and earth. After a short transitional section (34A-B), Timaeus brings his hearers face to face with the composition and structure of the World-Soul, one of the most obscure concepts of the entire dialogue. In composition, the soul was said to consist of certain "intermediate kinds" of existence, sameness, and

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12. Bury, Tim., 29E.

difference. When compounded, the mixture resulting from these "kinds" was divided in proportions on the basis of a musical ἁρμονία. An observation by Professor Whitehead is apropos at this point.

> Plato accounted for the sharp-cut differences between kinds of natural things, by assuming an approximation of the molecules of the fundamental kinds respectively to the mathematical forms of the regular solids. He also assumed that certain qualitative contrasts in occurrences, such as that between musical notes, depended on the participation of these occurrences in some of the simpler ratios between integral numbers. He thus obtained a reason why there should be an approximation to sharp-cut differences between kinds of molecules, and why there should be sharp-cut relations of harmony standing out amid dissonance.[13]

From this the Demiurge then executed a system of circles which represented the fundamental motions of the sidereal universe. The act of compounding these motions of the soul with the bodily framework was the signal for the world to begin its interminable course of intelligent life. Timaeus concludes this phase of his exposition by stating that, because "like knows like," the compounding of the World-Soul out of Existence, Sameness, and Difference, enabled the World-Soul both to know "unchangeably real objects and to have true beliefs about changing things of the lower order of existence."[14]

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13. Whitehead, PR, 145.

14. Bury, Tim., 35A-40C; Cornford, PC, 57.

The products of reason. Strictly speaking, the Soul of the world should be regarded as a product of reason. Because Plato apparently regarded it as of such primary importance as is evidenced by the extended space he gave to its discussion, the writer has chosen to treat it separately. Besides the soul, however, there are several other products of reason. There are the celestial gods, the laws of destiny, the human souls, and the human bodies. All three of these classes of beings are products of the World-Soul's creative genius. To the celestial gods, the Demiurge delegated the task of creating the lower living creatures. Human souls (i.e., their immortal part) were created by the Demiurge in person, while the body of man was fashioned by the gods whose duty it was "to provide a residence for the immortal part of the soul, which they [had] just received from the hands of the Demiurge." Upon concluding his preliminary description of the creation of man, Plato turns from a discussion of the products of the intelligence of the divine Craftsman, and is now ready to treat the things which have come of necessity.

The things which come of necessity. The problem which Plato now sets forth is that of necessity or as he describes it, "Errant Cause" (πλανωμένη αἰτία), and particularly in the present context (48A-69A) as the Receiver or Receptacle (ὑποδοχή). Back in 30A, the Demiurge was described as taking over three classes of beings, (1) all that was visible, (2) that which was not at rest, and (3) that which was in discordant and unordered motion.

Now, the concept of necessity gradually is being unfolded. It is that to which purpose has to conform, or, if not to conform, that against which it has to contend by the very nature of things. Finally from 49A to 50A, the concept of necessity is expanded to include the idea of a Receptacle. That which receives the εἴδολα , the ὑποδοχὴ is also described as the nurse (τρόφος) of becoming. As nurse of becoming, it contains fire, earth, etc., which are said to be names of qualities, not of substances, i.e., they are not permanent, irreducible elements, things with a constant nature. But how about the Receptacle itself? To call it matter would be a gross error, for observe that it is not that ἐξ οὗ things are made but that ἐν ᾧ <u>qualities</u> appear. These qualities, moreover, are pictured as "fleeting images" as seen in a mirror. It is only to the qualities, not to the Receptacle itself, that one can apply the word to τὸ σωματοειδές . Besides this, there is the analogy of the Receptacle to a mass of plastic material. Even Plato, however, recognizes that his argument is limping due to the fact that words of description fail him; His description only suggestively approximates the true reality.[15]

<u>The interaction of reason and necessity</u>. The very nexus of the problem which is under discussion is the interaction of reason and necessity. At the beginning of the section on the things which come of necessity (48A), we have a brief adumbra-

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15. Bury, <u>Tim</u>., 50A-C.

tion of the struggle between reason and necessity. This summary, it is important to note, forms the hub of the entire problem of the Timaeus. Previously, in another of his writings Plato had hinted at the concept of a teleological universe.[16] The Timaeus is an attempt to provide such a concept. While Anaxagoras had introduced his world-ordering νοῦς, he had failed to employ it as a causation principle. Plato, on the other hand, is here ready to come to grips with this knotty problem of causation. Therefore, he has distinguished between cause proper, i.e., final cause, and auxiliary cause, i.e., the sum of necessary physical conditions. In this connection, there enters the related problem of the interrelationship of ἀνάγκη, νοῦς, and πειθώ. The treatment we have at hand thus promises a thoroughgoing study of some of the basic questions concerning man and the universe, all of these questions being discussed on the basis of a teleology. What is to be the outcome of this struggle between rationality and irrationality? Is it to be an end characterized by purposive, teleological action or "errant cause?" Is the end to be the victory of chaos or cosmos?[17] In answer to this host of questions, Plato suggests persuasion (πειθώ), as the means by which reason deals with necessity and to a certain degree brings it under rational control.

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16. Plato, Phae., 96A.

17. Cf. Brightman, Art. (1939).

The significance of the description of the making of man. The final section of the dialogue concerns the making of man's soul and body.[18] The anatomy and physiology of man are described (69A-81E), followed by a discussion of the pathology of man's body (82A-86A), and the pathology of man's soul (86B-90D), and finally, with a generous supply of Rabelaisian humor, closes with a portrayal of the human reproductive system. What now is the significance of this unique section of the dialogue? Did Plato offer this chiefly as a contribution to the knowledge of the medical world? If he did intend this section to be taken primarily as a physiological treatise, then the writer sees nothing unusual in it at all. What Plato has presented here was the common medical knowledge of his day and offers little, if any, advance upon the findings of Hippocratic medicine. For this reason, the writer is of the opinion that Plato presented this discussion chiefly because it offered him a capital illustration of the very problem he was treating. Thus, while there is an even more significant meaning of this section which the writer will treat later,[19] on its face value, a more accurate and meaningful title would seem to be "Man and the Struggle between Reason and Necessity." That is, Plato has concluded his dialogue with a somewhat fantastic, yet nevertheless very prac-

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18. Bury, Tim., 69B-92C.

19. Chapter IV, 79-96.

tical, illustration of his basic problem, the interaction of reason and necessity, in terms of man's struggle to maintain a state of physical and mental health. In short, the Timaeus is Plato's supreme attempt to provide the scientific-philosophical world with a cosmology which, teleologically, discusses reality in terms of reason and necessity in constant interaction, an interaction which is operative in every phase of the universe, even to being experienced in the life of humanity in its struggle against the forces of "errant cause," "brute fact," or necessity in attempting to maintain a healthy equilibrium of mind and body.

In retrospect, the final sentence of the Timaeus collects the loose ends, observes the dialectical path which has been traveled, and closes with that beautiful and significant term expressive of the unity of all reality, μονογενής, i.e., "the uniquely born," "the only-begotten,"--quite a contrast to the εἷς, δύο, τρεῖς of 17A with which the dialogue began.

> Καὶ δὴ καὶ τέλος περὶ τοῦ παντὸς νῦν ἤδη τὸν λόγον ἡμῖν φῶμεν ἔχειν θνητὰ γὰρ καὶ ἀθάνατα ζῷα λαβὼν καὶ ξυμπληρωθεὶς ὅδε ὁ κόσμος οὕτω ζῶον ὁρατὸν τὰ ὁρατὰ περιέχον, εἰκὼν τοῦ νοητοῦ θεὸς αἰσθητός, μέγιστος καὶ ἄριστος κάλλιστός τε καὶ τελεώτατος γέγονεν εἷς οὐρανὸς ὅδε μονογενὴς ὤν.[20]

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20. Tim., 92C.

CHAPTER III

THE DISTINCTIVE PRINCIPLES OF INTERPRETATION EMPLOYED BY A. E. TAYLOR AND F. M. CORNFORD

That an academic rivalry exists between A. E. Taylor and F. M. Cornford is obvious even to the casual reader who picks up their famous commentaries on Plato's Timaeus.[1] Wherein the two scholars differ, what principles are at stake, and what concrete interpretations of the Timaeus result from this difference of opinion are the problems with which this chapter seeks to deal.

The treatment of the introduction of the dialogue. The first serious difference of opinion between Taylor and Cornford occurs in their treatment of the historicity of the conversation which Plato related as having taken place at the residence of Socrates. It is the claim of Taylor that this was an actual historical event, that Timaeus, Hermocrates, and Critias--all historical personages--were entertained at the home of Socrates, and that the cosmological problem which we have treated here was the product of Timaeus and not of Plato. Cornford flatly rejects this hypothesis for which he sees no good supporting evidence. While he does recognize the possibility of Taylor's theory, he is quick to deny its probability. With such a divergence as this it is not a surprise to find a radically different

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1. Alfred E. Taylor, CPT and Francis M. Cornford, PC.

attitude upon several rather crucial issues. This difference in points of view has resulted in two contrasting approaches to several problems which both are ready to admit constitute the philosophical message of the Timaeus.

Approach to the problem. Growing out of their basic difference of opinion as to the historicity of the conversation related in the dialogue is the problem of its cosmological thesis.[2] How did Plato (or Timaeus, if Taylor is to be followed) intend that this discussion be taken? Is it science or is it mere poetry? While both Taylor and Cornford recognize the section from 27C on as a metaphysical lecture, they are, at once, at odds as to whether the discourse is meant to be exact science. In addition to this, they must settle the problem of what really does constitute exact science. The immediate point at issue rests, of course, on the interpretation of the passage, ὥστε περὶ τούτων τὸν εἰκότα τὸν μύθον ἀποδεχόμενον πρέπει τοῦτον... ἔτι πέραβητεῖν .[3] Taylor seems to think that Plato means the account to be taken as "likely" in the sense that we take modern science as an "approximation" of reality. Taylor's conclusions on this point of interpretation are as follows:

> We conclude, then, that the model (παράδειγμα) on which the physical world is constructed is 'eternal' but that the world itself is mutable.... Accordingly, it will be a rule of method that 'discourses' (λόγοι) about the model must be final (μόνιμοι, ἀμετάπτωτοι); discourse about the mutable copy cannot have this

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2. Cornford, PC, viii, ix.

3. Plato, Tim., 29D.

> finality, and therefore not 'exact' (ἀκριβεῖς, cf. the ἀπηκριβωμένους of c 6), and we must be satisfied by an approximation to finality, and exactitude which is as close as we can make it (ἐὰν μηδενὸς ἧττον παρεχώμεθα εἰκότας, ἀγαπᾶν χρή c 7). As we should put it, pure logic and mathematics... are exact science and finality of statement can be reached in them; physics, as an account of the empirically existent, must be content to be progressive and provisional.... The accuracy of the observations is dependent on the limits to the discriminative fineness of our senses, and on the delicacy of our 'instruments of precision', and again we have no absolute guarantee that observations made under what seem identical conditions at different times will always yield identical results....[4]

This attitude is practically equivalent to that of contemporary philosophers of science.[5] Cornford, however, on the other hand, believes that this nearness to truth has nothing to do with the modern notion of "approximation," indicated in Taylor's statement that "the accuracy of the observation is dependent on the limits to the discriminative fineness of our senses." Stating Cornford's view more fully:

> These sentences [i.e., the paragraph of Taylor which was quoted above] come from a passage which professes to state Plato's conclusions, 'as we should put it'. If all that Plato meant by calling physics

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4. Taylor, CPT, 73.

5. For a clear statement of this attitude in terms of an epistemology which views all knowledge as the product of an experiencing self forming mental concepts or schemata which must be constantly revised as new evidences are presented, interpreted on the basis of a philosophy of levels, see Werkmeister, PS, 22-48, 514-527. Cf. also Whitehead, PR, 11. "The bundle of philosophic systems express a variety of general truths about the universe, awaiting co-ordination and assignment of their various spheres of validity. Such progress in co-ordination is provided by the advance of philosophy; and in this sense philosophy has advanced from Plato onwards." How like Plato!

> a 'likely story' was that natural science must always be provisional and progressive, we should expect him to state what he believed to be the nearest approximation to truth yet attained, not to be content with 'the best approximations to it which could be expected from a geometer-biologist of the fifth century'. Yet Tr. represents this as 'all that is required by his own principles that his speaker's theories 'shall be more or less "like" the truth'.[6]

Upon examining the evidence which Taylor and Cornford have assembled, the writer can see no great line of difference between the two scholars at this point despite Cornford's extensive quibbling. This example of a disagreement between the doctors does, however, at least, serve to demonstrate the tendency of Cornford to be hypercritical of every pronouncement of Taylor's where a difference of opinion is possible. In this case, what may be at issue (if this is more than just the expression of an academic rivalty) is an attempt on Cornford's part to break Taylor's confidence in his theory that Timaeus may have been an historical character setting forth his own views rather than a dramatic spokesman for Plato's views.[7] Whatever may be underlying the issue, however, it would seem to be obvious from the text of the <u>Timaeus</u> itself that a cosmology is "likely" when it is seeking to explain τὸ γιγνόμενον... ἀεὶ which by its very nature demands that the investigator be in the constant act of revising his conclusions.[8] "Exact" science,

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6. Cornford, PC, 30,n.

7. See discussion of this on pp. 20,21.

8. Plato, <u>Tim</u>., 28A.

therefore, on the basis of the text can only come from observation of τὸ ὄν and even here as in the case of mathematics (which itself belongs to the field of the rational given but which may be applied in a world where the principles of an irrational given are also in force), from man's standpoint, we may have different sets of "schemata" (Werkmeister) which in themselves may be consistent but are by their very nature limited when applied to the physical world.[9] Thus, the writer is of the opinion that, viewed both from the text of the Timaeus and from the standpoint of modern science, Taylor's interpretation of Plato at this point is essentially correct in spite of the dubitability of the historicity of the conversation within the dialogue and the dust which Cornford has consequently raised.

Perhaps a more basic difference in viewpoint is that which is revealed in Cornford's criticism of Taylor's eisegesis of Christian monotheism in interpreting the Platonic θεός. This is a more serious charge than any which Cornford has as yet made.[10] Obviously Taylor has interpreted the Timaeus in terms which also belong to Christian monotheism. Cornford is correct thus far. Where Cornford may be wrong is in his own blindness in not recognizing that after all there is a great similarity between Plato's thought as represented in the Timaeus and some

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9. Contrast, for instance, Euclidian geometry with the revolutionary geometries of Lobatschewsky and Bolyai.

10. Cornford, PC, ix.

of the basic concepts of Christian monotheism.[11] While this is not the place to offer a criticism of these two views, any interpretation of Platonism in the terminology of the Christian religion is nevertheless rather a dangerous feat and Cornford may be correct in saying that Taylor has over-emphasized an otherwise admitted similarity.

A further divergence between the views of Taylor and Cornford centers upon the interpretation of the mathematical sections of the dialogue. It is Taylor's contention that the mathematics of the Timaeus reflectsa very definite Pythagorean influence. An adequate interpretation of the Timaeus is thus impossible without a preliminary acquaintance with and understanding of Pythagoreanism. Now undoubtedly Plato was under the influence of the teachings of the Pythagoreans. Yet, the extent of this influence is quite another matter and Cornford's criticism of Taylor's insistence upon delving back into Pythagoreanism for the basis of his interpretation of the Timaeus is well taken.[12]

The final variation in the approach to the dialogue is revealed in Cornford's criticism of Taylor's interpretations of space and time. Taylor, says Cornford, has been too prone not

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11. It is the clear testimony of the history of Christianity that much of its terminology is borrowed from Neo-Platonism which, incidentally, had some of its roots in this very dialogue of the great poet-philosopher.

12. Cornford, PC, ix, x.

only to use the scientific terminology of Alfred North Whitehead but to read Professor Whitehead's philosophy of science into the Timaeus. Once again it is necessary for Taylor to plead guilty. But the interesting point to note here is that Dr. Whitehead again and again has acknowledged his debt to Plato on this score.[13] Cornford may be right. Perhaps Taylor has read much of Whitehead into the Timaeus but if Cornford wishes to criticize him for it, this also involves a criticism of Whitehead's evaluation of Plato's scientific cogitations.

The Demiurge. Plato's concept of the Demiurge (δημιουργός) seems to be one of the most serious bones of contention between Taylor and Cornford. Cornford is fairly caustic in his criticism of Taylor at this point.[14] The first of Cornford's charges is that Taylor has misrepresented the Demiurge by capitalization of Θεὸς which is frequently used in the Timaeus with reference to the Demiurge. This, says Cornford, is taking too much for granted. Furthermore, Cornford claims that Taylor has represented the Demiurge or θεὸς as an object of worship.[15] As far as the writer has been able to ascertain, this is a false charge. Nowhere does Taylor say just this although it must be admitted that the word θεὸς implied an

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13. A cursory examination of either Whitehead, PR or AI will amply substantiate this contention.

14. Cornford, PC, 34-35.

15. Cornford, PC, 35-36 and Taylor, CPT, 78.

object of worship in the mind of the average Greek.[16] But, after all, it was Plato who used the word. Does it not seem that the emphasis which Plato placed upon this Θεὸς and the manner in which this Θεὸς was singled out was sufficient reason for Taylor's capitalization? While it may be that Taylor has overstated matters in his enthusiasm and because of his prejudices in the direction of Christian monotheism,[17] it does seem to the writer that Cornford's picture of the Demiurge is that of an emasculated Θεός, a conception which Plato himself would have had difficulty in recognizing. A more adequate criticism of these two opposing views will be presented later when the writer offers his own interpretation of the nature and role of the Demiurge in the Platonic cosmology.[18]

The execution of the works of reason. By way of approach to an exposition of the execution of the works of reason, it may be well to inquire into Plato's basic use of the concept of causation in the dialogue. On the surface, it would seem that Plato is picturing the rational world as the direct product

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16. Yet, note Tim., 27B-C (object of prayer for divine guidance) and 29A (God is good and, therefore, a suitable object of worship).

17. Note that Professor Taylor is a strong churchman. It has been a striking tendency for the theologians and philosophers of the Anglican Communion to express their philosophy of religion as a synthesis of Platonism and Christianity. It is to be wondered at that Professor Taylor has succeeded so well in holding in check his religious preferences!

18. Chapter IV.

of the Demiurge and to a certain extent this is true. Yet, while it is true that the argument may be best conveyed by the image of the divine maker, portrayed as distinct from his model, materials, and work, it is Cornford's belief that Plato

> here warns us not to imagine that, in using the image, he has declared the true nature of the cause. It is to be taken not literally, but as a poetical figure....What the sustaining cause is, Plato does not tell us and could not...without stepping outside the framework of the very myth he is constructing.[19]

Obviously, this is one of Cornford's basic reasons for objecting to Taylor's argument as wishful thinking. Perhaps, however, this careful reticence on Cornford's part is just as well. Excessive enthusiasm might have again presented the reader with the question as to what held Atlas up or what sustained the four elephants at the corners of the earth! But clarity of the present exposition suggests a return to the point under immediate discussion, the execution of the works of reason.

As a whole, the section 29D to 47D deals with the works of reason. Since this discussion includes a treatment of the concept of the Demiurge, it is not strange that Taylor and Cornford should also blend the discussion of the two subjects. Cornford's alert tendency to catch Taylor reading into Plato some of his theological presuppositions has already been noted. Yet, Taylor is not the only one who has so sinned, if we wish to call it such. On one occasion, at least, the tables can be re-

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19. Cornford, PC, 27.

versed. Conford not only waxes theological; he is almost biblical! Says Cornford,

> The kernel of Plato's ethics is the doctrine that man's reason is divine and that his business is to become like the divine by reproducing in his own nature the beauty and harmony revealed in the cosmos....[20]

Far from suggesting that Cornford has misinterpreted the Timaeus, it is only right that we admit his interpretation as correct. It seems quite obvious, however, that Cornford, whether he knows it or not, has been driven to interpret Plato in terminology which is very close to that of the Christian Church.[21] Taylor and Cornford, then are essentially agreed in regarding the works of reason as the product of a rational will or, at least, a rational factor in the universe. That part of the world which is visible, both (along with Plato) recognize as "a living creature made after the likeness of an eternal original." It is only the ideal living creature in the world of Forms, "not to be identified with any species of animate being, but embracing the

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20. Cornford, PC, 34.

21. Compare the terms of his statement with Genesis 1: 26, 27. Note, too, that the LXX uses εἰκὼν (the very word Plato uses) in translating בְּצַלְמֵנוּ . . . נַעֲשֶׂה אָדָם בְּצַלְמֵנוּ כִּדְמוּתֵנוּ
וַיִּבְרָא אֱלֹהִים אֶת־הָאָדָם בְּצַלְמוֹ :

22. Cornford, PC, 39.

agreed that Plato intended his emphasis upon one world rather than many to be a symbol of rational organization as over against the absence of such ordering.[23]

The World-Soul. The World-Soul is described as a composition of certain intermediate kinds of Existence, Sameness, and Difference. These constituents are compounded and the resulting mixture divided on the basis of the proportions of a musical harmonia. From this the Demiurge constructs a system of circles representing the elementary motions of the heavenly bodies.

Perhaps, most significant is the possibility that the interpretation of God as being a part of a larger whole may not be absolutely necessary. Indeed, if the same principle is applied to the divine reason in the world and that divine reason which is symbolized by the Demiurge, confusion results. Cornford calls attention to this fact.

> Can we simply identify the two? In that case the Demiurge will no longer stand for anything distinct from the world he is represented as making. The desire for goodness will then reside in the World-Soul....[24]

This, says Cornford, is not Plato's intended meaning. Yet may it not be possible to preserve the distinction which Cornford desires when the pluralistic aspect of Plato's universe is recognized? In this sense, the Demiurge or God may still be

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23. Cornford, PC, 33-43, and Taylor, CPT, 75-86.

24. Cornford, PC, 39. Note that this is the basic principle of Archer-Hind's pantheistic interpretation.

conceived of as a part of a larger whole and yet distinct, i.e., a part distinct from the various other parts.

The body of the universe, as such, is not a mere reduction to extension. It still contains motions and active powers which, not produced, i.e., instituted by the divine reason, are eternally producing undesirable effects from the point of view of reason. Cornford comes to the conclusion, as does Taylor, that since Plato has represented all physical motion as having a living soul as its ultimate source, "these bodily motions and powers can only be attributed to an irrational element in the World-Soul."[25] This is just about as far as Cornford is able to go, however. While he may have made a contribution in specifying the locus of the irrational element (although this is not at all new) as the World-Soul, he has not really said much thus far. It remains for Taylor to present an elaborate exposition of the problem. Unfortunately, however, Taylor centers his very full discussion on an attempt to maintain the thesis that there is no void outside the cosmos for Plato any more than for Aristotle, a thesis which he supports by introducing one of his favorite hypotheses, namely, that Plato is attributing to Timaeus a "development within Pythagoreanism which repudiates prominent features of the original doctrine."[26] The exposition of Taylor is complicated further by frequent references to

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25. Cornford, PC, 176.

26. Taylor, CPT, 100, 131.

numerous ancient and modern interpretations of the subject plus a tendency to translate Timaeus' doctrine into the terminology of Alfred North Whitehead.[26] Since this Chapter is concerned principally with the distinctive features in the interpretations of Taylor and Cornford, expediency would suggest that the writer forego any attempt to set forth their conceptions of the World-Soul completely, and to pass on to the more important (at least as far as the basic line of argument is concerned) concept of the Receptacle.

Necessity and the concept of the Receptacle. One of the major problems which now looms upon the horizon of this study is that of adequately defining the concept of the Receptacle (ὑποδοχή). What can the Receptacle of the εἴδολα be? What is meant when the Receptacle is described as the 'nurse' (τροφός) of becoming. In the Timaeus, 49A-50A, Plato offers the first approach toward an answer when fire, air, earth, etc., are considered as the contents of the Receptacle.[27] These are said to be names of qualities, not of substances, i.e., they are not

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27. Such a concept is not peculiar to Plato. Cf. Plutarchus, Mor. In De Iside et Osiride where the Receptacle is under discussion, the goddess Isis is described as yearning for form as a woman for a child. Plutarch (Mor., 372E,F.) relates this concept with Plato's "gentle nurse (49A,51A), the all-receptive." He describes her as having "an inate love for [Reason] which is identicle with the good" for which she yearns. This is apparently a misunderstanding of Plato's concept of the Receptacle, the single concept being split between Isis who yearns for the good and Typhon who is evil incarnate. In De Ei, inscripto foribus templi Delphici, chap. 19, p. 392E, the Receptacle is identified with time. In De Animae Procreatione (5, 1014B-D; 7, 1016C-F; 21, 1022E-1023A; 23, 1024B-24, 1024C; 26, 1025F), the Receptacle appears again as "inner matter."

permanent, irreducible elements, things with a constant nature, as were the atoms of Democritus and Leucippus, for instance. Thus far, Plato has in a general way been primarily concerned with the rational or final cause of the οὐρανός. He, moreover, has specifically attempted to show how this general plan of the οὐρανὸς is the answer to the purpose of the Demiurge in making the "best of all possible worlds." It is at this point that Plato wishes to delve deeper into the problem to examine more closely the workings of the machinery of the universe by which this purposed result is achieved. That is, Plato now treats three problems: (a) the theories about the molecular structure of the four 'roots,' (b) the chemical composition of the bodies, and (c) the tissues of the living organisms. As Taylor points out, the argument is now lifted to the plane of 'positive' science.[28] Previously the existence of the four roots had been assumed as an hypothesis from which the consequences (i.e., a divine intelligence making a universe by the best possible combination) might then be deduced.

Of important preliminary importance is Plato's positive implication of his belief in a real theism. Unfortunately, Cornford has so emasculated Plato's conception of the Demiurge that his appreciation of this theistic belief of Plato is necessarily limited. The interpretation of Taylor is thus not only more cogent from Plato's point of view; it is more inclusive.

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28. Taylor, CPT, 311-315.

observe, the terminology of 47E: διὰ νοῦ δεδημιουργημένα... δι' ἀνάγκης γιγνόμενα. Note too that Plato makes a change in verbs. The significance of this is simply that the effects of the νοῦς are "the works of its hands," that is, Plato is dealing literally with God's handiwork as contrasted with mere occurrences from ἀνάγκη. It would seem, contrary to Cornford, that once more we have a clear indication of genuine purpose ascribed to God, a real theism which Plato was attempting to propound.

That the νοῦς is not always absolutely successful in the achievements of its purposes seems obvious. The concept of irrational necessity or Receptacle in the Timaeus is Plato's supreme attempt to wrestle with this problem. From the argument of this dialogue it would seem clear that in a majority of cases the νοῦς is successful.[29] Whatever success is achieved, however, must always come as νοῦς works in combination with or even in spite of necessity (ἀνάγκη). Plato's famous statement of this principle is as follows.

> Τὰ μὲν οὖν παρεληλυθότα τῶν εἰρημένων, πλὴν βραχέων, ἐπιδέδεικται τὰ διὰ νοῦ δεδημιουργημένα. δεῖ δὲ καὶ τὰ δι' ἀνάγκης γιγνόμενα τῷ λόγῳ παραθέσθαι. μεμιγμένη γὰρ οὖν ἡ τοῦδε τοῦ κόσμου γένεσις ἐξ ἀνάγκης τε καὶ νοῦ συστάσεως ἐγεννήθη. νοῦ δὲ ἀνάγκης ἄρχοντος τῷ πείθειν αὐτὴν τῶν γιγνομένων τὰ πλείστα ἐπὶ τὸ βέλτιστον ἄγειν, ταύτῃ κατὰ ταῦτά τε δι' ἀνάγκης ἡττωμένης ὑπὸ πειθοῦς ἔμφρονος οὕτω κατ' ἀρχὰς ξυνίστατο τόδε

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29. Yet in his old age, Plato seems to have become much more pessimistic than he formerly had been. The accumulative irrationalities of man and nature had somewhat soured the great poet-philosopher. Cf. Laws, 906A.

Τὸ πᾶν. εἴ τις οὖν ἢ γέγονε, κατὰ ταῦτα ὄντως ἐρεῖ, μικτέον καὶ τὸ τῆς πλανωμένης εἶδος αἰτίας, ἣ φέρειν πέφυκεν.[30]

The necessity which confronts the Nous is described as πλανωμένη αἰτία, or to use Cornford's rendering, "errant cause." It is a factor in the universe which is not caused by reason.[31] Earlier in the discourse, Plato (or Timaeus, if we are to follow Taylor) had assumed the four roots as ultimate. Now, however, as Taylor observes, this preliminary working hypothesis is to be "corrected by an account of their γένεσις which turns out to be an analysis of their respective molecules into simple geometrical constituents."[32] The selection of these roots (which is the task of the Nous or Demiurge) is characterized by the picking out of geometrical forms from infinitely numerous possible configurations in space. It is on this basis that Plato can accurately describe this premature state of τὸ ἄπειρον with which the Demiurge begins as the πλανωμένη αἰτία.

Is it correct to conceive of this ordering of the Universe from chaos or more accurately from πλανωμένη αἰτία as a chronological progression, i.e., from chaos (πλανωμένη αἰτία) to roots, to ordering? Probably this is an over-simplification. Rather does it seem that this action is conceived of as somewhat synchronous and eternal. The constant interaction of νοῦς and

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30. Bury, Tim., 48A.

31. Cf. Demos, PP, 106, "passive cause" and Whitehead's concept of "process" (in PR) as change with the conscious initiation of purpose.

32. Taylor, CPT, 303.

ἀνάγκη (to use another of Plato's terms) is inherent in the very nature of the universe.

What now are these roots which Plato mentions? Apparently, as has been implicitly assumed in the earlier part of the dialogue, they are ultimate. Does not Plato call them στοιχεῖα τοῦ παντός, i.e., the ABC's of the universe? Yet the very specific purpose of this section of the dialogue is to make a fresh and more intensive analysis of these very στοιχεῖα.[33] Indeed, as will be presently seen, this new analysis goes far beyond any mere analysis of the universe into four primary elements. In this, both Taylor and Cornford are agreed, particularly the former whose treatment of this section is remarkably thorough in its detailed analysis. Plato proceeds to give an answer to the problem which has just been raised. As Taylor shows, formerly,

> our immediate purpose was simply to distinguish the eternal form from the passing, so we could work with a new pair of antithetical forms, operating between νοητόν which is model or pattern and the αἰσθητόν which is μίμημα, copy.[34]

Now, however, analyzing the four roots, themselves, it is found that they are sensible bodies. Moreover, the peculiarly distinctive qualities of these roots, now are discovered to be dependent upon the geometrical stamp of their particles. Says Taylor (whose analysis is much more acute than Cornford's at

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33. Bury, Tim., 47E.

34. Taylor, CPT, 312.

this point), "we have to get back to the notion of shape and voluminousness as something common to all the roots." The student of the problem is thus forced to regard the filling of a volume with "a definite contour as just as much a fundamental and universal character of nature as the filling of a duration." Thus Timaeus now positively identifies corporeality with the filling of a contour.[35] The three basic terms which are involved in this process may be listed as follows:

(1) παράδειγμα , the pattern or model;
(2) ὑποδοχή , or to give the other terms used to describe the Receptacle itself, the matrix (ἐγμαγεῖον), the mother (μήτηρ), and the nurse (τιθήνη) of all becoming;
(3) μίμημα (a union of 1 and 2), the 'passing copy' (a qualified event or complex of events perceptible through the senses.)

While adding to his descriptive repertoire of the Receptacle by an illustration in terms of a piece of gold which a man constantly shapes, Plato now is faced with the problem of the corporeality of the Receptacle. But is it corporeality? If one is to take the illustration in its gross literalism, it is, yet one does well to remember that the work under consideration is the artistic product of a poet-philosopher. Probably, Plato reasoned as follows. Volume is one of the things which can be considered as permanent. It never changes its character for the good reason (which Taylor alone points out) that volume--"the volume in which passage as a whole occurs...has no

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35. Cf. Descartes' similar conception in later centuies.

figure to change."[36] This then is the secret: it has no figure or shape of its own. Similar to the clay of the potter described by Jeremiah, it only has shape or figure as it yieldingly receives it from the artificer or potter.[37] In this sense, the ἐγμαγεῖον which otherwise might be thought of in terms of crass literal materialism is rather a sort of spiritual substitute.[38] Cornford, as well as Taylor, is emphatic in his insistence that "we are to get rid of the notion of material substance."[39]

In their comments upon 50B, both Taylor and Cornford wisely stick rather close to Aristotle's criticism of Plato at this point.[40] Timaeus is not represented as saying, after the illustration of the gold that the ὑποδοχὴ is a sort of stuff and that "what we commonly call the 'coming to be' or 'ceasing to be' of fire, water, and the like, is really only a qualitative change (ἀλλοιώσεις) of the more permanent stuff." Rather does Timaeus refer not to a material substrate or stuff but to a real γένεσις and φθόρα of αἰσθητά. Furthermore, this illustration is only applied to cases of alteration of an already pre-existing 'substance'!

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36. Taylor, CPT, 321.
37. Jer., 18:1-6.
38. Bury, Tim., 50A.
39. Cornford, PC, 181.
40. Taylor, CPT, 323; Cornford, PC, 182-184.

What now is the final description of the Receptacle? Very fortunately, Plato gives his own descriptive summary so that there is neither room nor necessity for personal interpretations on the part of either Taylor or Cornford. To begin with, the ὑποδοχὴ must not be called matter, simply because it is not that ἐξ οὗ things are made but that ἐν ᾧ (not things) but qualities appear.[41] Note that these qualities are pictured as "fleeting images" as seen in a mirror. Thus Plato is not now dealing with τὸ σφαιροειδὲς as earlier in the dialogue but with τὸ σωματοειδές.[42] Moreover, it is specifically to the qualia themselves and not to the ὑποδοχὴ that one can correctly apply this term τὸ σωματοειδές. A second preliminary observation is that the ὑποδοχὴ is represented as formless (ἄμορφον), i.e., in a sort of plastic state. Thus when Plato finally comes to summarize his description of the ὑποδοχή, he gives four terms (not all new), two negative and two positive. Note that he begins this summary with a διὸ δὴ which goes on to cut directly across the roots of the former cosmologies of Thales, Anaximenes, Heracleitus, and Empedocles. Plato is now through with such terms as earth, fire, water, etc. The ὑποδοχὴ he says is in contrast to all these; (Note the force of ἀλλ'.) it is ἀνόρατον εἶδός, ἄμορφος, πανδεχές, μεταλαμβάνον...τοῦ νοητοῦ. The distinction which is made here between the suchlikes is

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41. Bury, Tim., 50A,B.

42. Cf. Bury, Tim., 33B and 36E.

vital.[43] Plato has progressed from mere sense perception to that which is only apprehended by thought, in this case, "extension."

The three ultimate factors in the making of the Universe, therefore, are as follows. First, there is the pattern or εἶδος which is (a) exempt from all passage, (b) apprehended by thinking, (c) imperceptible to senses (ἀναίσθητον). Secondly, there is the μίμημα which is (a) implicated in passage, (b) that which passes, and (c) is known through the senses. Finally, there is the ὑποδοχὴ itself which is (a) a χώρα, i.e., a room or space, (b) that in which passage is situated or occurs, (c) does not itself pass, and (d) is apprehended by a 'bastard' kind of thought (ἁπτὸν λογισμῷ τινὶ νόθῳ). As Taylor summarizes this statement of explanation from Plato, the point singled out for special emphasis is

> that space, though not a παράδειγμα is like a παράδειγμα in not being in the making,...and also in not being apprehended through sense, though that which does apprehend it is of a peculiar kind.[44]

As for the term χώρα, this is defined as a name for that which has the character and function already specified. Says Taylor, "we are to assign to space the character and function already

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43. Contrast suchlikes (Gr. τὸ τοιοῦτον, Lat. quale, i.e., quality as immediately experienced as distinct from form as rationally defined) and the Ideas (objective Universe. Cf. Whitehead's "potentials," "eternal objects." Tim. 52E, δυνάμεων).

44. Taylor, CPT, 342.

described and no other." [Note the similarity of Kant's doctrine of space here.]

In summary then, Plato has presented the following conceptions of the ὑποδοχή.

(1) a state of irrational confusion, confused motion;
(2) a form, in the sense of an idea, a definition or rather the object defined;
(3) passivity (the receiver--ὑποδοχή);
(4) the nurse (τιθήνη);
(5) a raging fire (49B), etc.
(6) the ἐν ᾧ of qualities, i.e., the seat of irrational qualities;
(7) invisible (ἀνόρατον εἶδός);
(8) unshaped (ἄμορφον);
(9) all-receptive (πανδεχές);
(10) characterized by intelligence or perceived by a sort of intelligence (τοῦ νοητοῦ);
(11) space, room (χώρα).

Obviously, the subject has not been exhausted and never will it be. The student of cosmology is here faced with Plato's "given." What is meant by a "given" and how is one to treat it in a philosophical system? Professor Taylor answers these questions in the following very able statement.

> In the real world there is always, over and above 'law,' a factor of the 'simply given' or 'brute fact,' not accounted for and to be accepted simply as given. It is the business of science never to acquiesce in the merely given, to seek to 'explain' it as the consequence, in virtue of rational law, of some simpler initial 'given.' But, however far science may carry this procedure, it is always forced to retain <u>some</u> element of brute fact, the merely given, in its account of things. It is the presence in nature of this element of the given, this surd or irrational as it has sometimes been called, which Timaeus appears to be personifying in his language about necessity.[45]

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45. Taylor, PLA. quoted in Whitehead, PR, 67, 68.

Thus it is well to note Plato's statement of philosophical humility for the present and his challenge to future investigation and thought.[46] Εἴρηται μὲν οὖν τἀληθές, δεῖ δ' ἐναργέστερον εἰπεῖν περὶ αὐτοῦ. It may be observed that both Taylor and Cornford are in agreement on these basic principles of interpretation of the Receptacle. The parting of the ways comes (1) when Taylor begins to interpret space and time on the basis of Whitehead and (2) when Taylor holds to the complete subordination of the Receptacle to the persuasion of reason (interpretations to which Cornford explicitly objects).[47] The disagreement, therefore, in the latter case concerns the work of the Receptacle and its control by reason rather than the nature of the Receptacle itself.

Time. Time, Cornford describes, in the terminology of Plato, as "the moving likeness of Eternity." It "cannot exist apart from the heavenly clock whose movements are the message of Time." Divided into three 'forms,' past, present, future, "Time 'moves according to number,' being measured by a plurality of recurrent 'parts,' the periods called day, month, year." These units of measurement are necessary to anything which is to be

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46. Bury, Tim., 49A, B.

47. Cornford, PCC, xi, xii, 176. "It is true that Professor Whitehead has been profoundly influenced by Jowett's translation, and that his eternal objects have a definite affinity to Plato's eternal Forms. But there is more of Plato in the Adventures of Ideas than there is of Whitehead in the Timaeus." Relative to the subordination of the irrational, Cornford says, "It is here that I differ from Professor Taylor, who holds that the subordination is complete."

called Time. Furthermore the existence of these units, in turn, is dependent upon the regular revolutions of the heavenly bodies, "the motives of the celestial clock." Since neither Time nor the Heavens can exist independently, i.e., in separation from the other, Time is described by Plato as having "come into being together with the Heaven."[48] Furthermore, Cornford finds that Plato's treatment of Time is in direct contrast to his treatment of Space. Our tendency, he says, is

> to speak of Becoming as going on 'in time and space', as if these two conditions were on the same footing. Plato does not so regard them. Time is here included among the creatures of the divine intelligence which orders the world. It is a feature of that order, not a pre-existing framework. Space on the other hand, is introduced in the second part of the dialogue, under the heading of 'what happens of Necessity'.... [The] Receptacle, finally identified with Space (52A), is treated as a given frame, independent of the Demiurge and a necessary condition antecedent to all his operations. Time is not a given frame; it is 'produced' by the celestial revolutions (38E), which are themselves the work of the Demiurge. It is true that the existence of Space is implied throughout all this description of the world's soul and body; but its existence is due to Necessity, not to Reason.[49]

The preliminary conclusion at which Cornford arrives is simply that Space is the <u>conditio sine qua non</u> of Reason's production of the visible order. Time on the other hand is a <u>feature</u> of that order, to be regarded as "inherent in its rational structure."

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48. Cornford, PC, 97, 102.

49. Cornford, PC, 102-103.

That Plato should view Time as inseparable from periodic motion Cornford finds is not a novelty in Greek thought. Furthermore, Plato was following the traditional conceptions of Greek philosophy when he spoke of Time in the terminology of spherical movement. This is a "more abstract, unsubstantial, phantom-like" concept than Space. To quote Cornford again, "What fills Space is body that we can see and handle; what fills Time is movement, and above all the movement of life: the very word αἰὼν means both 'time' and 'life'."[50]

Turning to Professor Taylor's analysis of Time, it is noted that he prefaces his discussion in the body of his running commentary with the statement, that this description of the creation of Time is

> of course...not to be taken literally, since it would then imply the absurd consequence that there 'was a time' when as yet there was no time. The real object is to explain the relation between time and eternity (αἰῶν), Plato's formula being that time is a 'moving image of eternity' (εἰκὼν κινητὸς αἰῶνος [37D])....
> We must note that we are told at the outset that Time was created to make the world 'still more like' its original....That is, Timaeus means to insist, not on the hackneyed contrast between time and eternity, but on their positive resemblance.[51]

Strangely enough, the prefatory remarks just quoted are about all Taylor has to say at this point by way of a definitive description of Time. To be sure, Taylor traces the main points of the Platonic argument and even goes on to contrast the notion

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50. Cornford, PC, 103.

51. Taylor, CPT, 184.

of alternate cycles, "or rather half cycles, of growth and decay of the οὐρανός," and "the view that all processes within the κόσμος from the revolution of the ἀπλανὲς to the life-history of an insect have their rhythmic periods" with the doctrine of eternal recurrence as propounded by the Stoics and Nietzsche. "There is nothing to show that he [Plato] held that the whole cosmical process as a whole is cyclical or that he believed in the 'point-to-point' repetition of any series of events like the Pythagoreans of whom Eudemus speaks, or the Stoics or Friedrich Nietzsche."[52] Thus to obtain Taylor's distinctive opinions on the subject of Time, it is necessary to turn to the Appendix of his commentary.[53] This is the famous passage to which Cornford so strenuously objects.

What now are the essential features of the Taylorian interpretation of Time? Basicly, Taylor connects temporality with τὸ γιγνόμενον, i.e., "'what is in the making', 'the unfinished', as contrasted with that which is once and for all it can be, the 'eternal' (τὸ ἀιώνιον)." Thus, he holds that the Platonic doctrine of Time is similar if not synonymous with Whitehead's concept of the 'passage' of nature. Time and events are inseparable. "Where there is nothing 'going on' there is not time." On the basis of this reasoning Taylor concludes that Time is of the physical nature of the Universe since nature is

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52. Taylor, CPT, 190.

53. Taylor, CPT, 678-691.

"the complex" of τὸ γιγνόμενον. Although they are not strictly physical events, Taylor also observes that reasoning, choosing, feeling 'go on' or 'take place'. In view of this, he declares that passage extends beyond nature although it, in some sense, belongs also to man's inner life. In contrast to this, to intelligence (νοῦς) as such, he finds that 'passage' does not apply. Thus far, Taylor's exposition seems to be quite consonant with the argument of Plato although it is obviously possible to press too far the analogy with Whitehead's 'passage'. From this point on, however, Taylor wanders far from the Timaeus. The basic Platonic description of Time linked up with the Whiteheadian concept of the 'passage' of nature is used as a springboard for a long excursion into Neo-Platonism, Scholasticism as represented by Saint Thomas Aquinas, Christian theology, Whitehead, Russell, Leibniz, Newton, Descartes, the Michelson-Morley experiments of 1887 and 1905, etc. The discussion is commendably thorough, but it is little wonder that Cornford raises a loud objection. The net result of Taylor's ten pages of research seems to be the conclusion that Plato rightly distinguishes between time and the fundamental 'passage' of Nature itself. "Time is not the same thing as γένεσις or τὸ γίγνεσθαι but a numerical 'measure' of it." Furthermore, Taylor is bold to claim that it is upon this distinction between time and 'passage' that the whole recent development of modern science rests and "as the uniqueness of order in time is only implied, not actually affirmed, his account [Timaeus'] could be adopted

by an exponent of the 'Theory of Relativity'."[54] A section of Taylor's concluding paragraph is worthy of quotation.

> If we keep firmly before our minds the difference between the actual 'passage of Nature' and the representation of it in a given space-and-time system, and the contrast between the plurality of these systems and the unity of the 'passage' itself, we shall see the full happiness of the phrase that time is a '*moving* image of eternity'. 'Passage' itself does not 'pass'. It is a permanent character by which Nature is distinguished from what is above Nature. Thus Nature itself in its concrete reality may be said at any rate to belong to *aevum*. But when we try to represent the passage of Nature in the time-system correlated with our space-system, to get a *perspective* of it, what we get is an endless series of occurrences in an order which would not be the same for observers with a different space-system. Every system of measures depends on the arbitrary selection of a special ποῦ στῶ, and therefore we cannot create a system which starts from no one particular ποῦ στῶ at all. The view of Nature we could get by pursuing science for ever would, after all, be only one among an infinity of equally legitimate perspectives, all differing. Such a view is exactly what Timaeus calls it, a *shadow*, and a 'moving' or 'variable' shadow of the eternal.[55]

Taylor's argument is typically thorough and certainly cogent, yet it is easy to see why it is not convincing to such a mind as Cornford's. Taylor has unquestionably made several broad assumptions and at times rather far-fetched analogies which demand more than a small degree of faith. Yet, it must be admitted that the argument is an interesting correlation of ancient and modern cosmologies worthily provocative of thorough study and discussion.

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54. Taylor, CPT, 689.

55. Taylor, CPT, 691.

Space. A like situation exists with reference to the two expositions of Space which Taylor and Cornford have presented. The former gives little by way of a definitive description of Space in his running commentary but rather relegates his discussion of this topic to the Appendix where he first contrasts the Platonic view with the Aristotelian doctrine of Space, and then tries to equate it with the doctrines of Whitehead which he claims are attempts to get back from Aristotelian positions to the general standpoint of Plato's Pythagorean cosmologist.[56] Cornford on the other hand is content to stick fairly close to an exposition of the traditional Platonic argument without venturing off on any of the many seductive tangents which constantly tempt any reader of Plato.

Examining first, the views of Cornford relative to space, it is noted that they are included in the body of the text of his commentary on the Timaeus.[57] Cornford finds that "three facts are here contrasted in three aspects." To begin with, Space is described as 'everlastingly existent and not admitting destruction'. "Plato's purpose," says Cornford, "is precisely to introduce Space as an eternally real object, to fill the blank left by the totally non-existent in Parmenides'

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56. Taylor, CPT, 677. Note that this discussion is largely dependent upon the assumption that Timaeus was an historic person.

57. Cornford, PC, 191-200.

scheme, which consequently provided no support for any world of appearances."[58] Secondly, Cornford notes that Space is apprehended, "not by the senses, but 'by a sort of bastard reasoning', and is 'hardly an object of belief'. All Plato means by this is that Space is not sensible since it cannot be seen or touched. Neither is it intelligible since it has no status in the world of Forms.

> Space is rather a factor in the visible world; and yet it is everlasting and imperishable, and can only be apprehended by thinking: so it 'partakes of the intelligible in a very puzzling way' (51B).[58]

It is possible, as Cornford suggests, that Plato may have had in mind the process known today as 'abstraction'--"thinking away all the positive perceptible contents of Becoming until nothing is left but the 'room' or place in which they occur." Thirdly, Cornford remarks that the Form is contrasted with Space "in that the Form 'never receives anything else into itself from elsewhere', and with the copy in that 'it never itself enters into anything else anywhere'." Ultimately, Cornford finds that Plato has identified Space with the concept of the Receptacle. He denies that Plato's Space is a void which remains entirely distinct from the particles moving in it. Rather does he think of the Receptacle as "a Recipient which affords a basis for images reflected in it, as in a mirror," a comparison which, he notes, could not be applied to atoms and void. To be sure, Plato has

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58. Cornford, PC, 193.

described Space as a room (χώρα), i.e., a place where they are in contradistinction to stretches or intervals of a vacancy where they are not present. If Plato admits any void at all, says Cornford, "it is only as the very smallest interstices (διάκενα) which the shapes of particles, when particles have been formed, do not allow them to fill."[59] This exegesis, Cornford supports by a careful distinction between two Greek words. Τόπος, he shows, is the word which refers to the place when something is, whereas χώρα is τὸ ἐν ᾧ, a container, and has a very close connection with χωρεῖν meaning to 'hold' or 'have room for'.[60]

As noted above, Professor Taylor has made his exposition on the basis of a contrast with the Aristotelian doctrine of Space. He finds that the account of Space offered by Timaeus is much less open to objection than that of Aristotle. To begin with, Timaeus' theory has the advantage of not beginning with metrical considerations. While it may be true that χώρα is metaphysically described as πάσης γενέσεως ὑποδοχή and that in which everything happens, no references are made to anything like cubic capacity.[61] The epitome of Timaeus' argument is simply

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59. Bury, Tim., 58A, B.

60. Cornford, PC, 200, n. 2.

61. Bury, Tim., 49A, E.

> that every physical event happens 'somewhere', and again that what happens here now is qualitatively different from what happens here by and by, and that, in virtue of these differences, χώρα receives different configurations (cf. 50C 2 κινούμενόν τε καὶ διαχηματιζόμενον ὑπὸ τῶν εἰσιόντων .) That is, χώρα is primarily not that of which bodies take up a greater or a less bulk, but that which exhibits different configurations and different 'sensible' properties in its different regions. Situation and figure, not quantity are made primary.[62]

Furthermore, while Taylor is willing to admit that 'projective geometry' did not exist as a recognized science in the day of Timaeus or even in that of Plato, he holds that Timaeus has instinctively pitched "on the 'projective', not on the 'metrical' properties of figures...as what calls for recognition when he introduces the notion of χώρα as a third requisite for his cosmology along with the παραδείγματα and their sensible μιμήματα."

Not content to limit himself to the problems which have already been raised. Taylor goes on and admittedly translates Timaeus' doctrine of Space into the language of modern philosophy of physics. He concludes that Timaeus

> formally treats of time and space as distinct and differing features of 'becoming' in different sections of his discourse. But owing to his freedom from metrical prepossessions, he gives an account of the ὑποδοχή, γενέσεως, the 'continuum implied in becoming', which is such that it needs only to be supplemented by the recognition that the continuum has four dimensions and not only three to be still appropriate. Aristotle's preoccupation with the notion of volume, on the other hand, leads to the

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62. Taylor, CPT, 676.

> traditional isolating of space from time with all the paradoxes it involves. This is why the latest philosophical work on the concepts of physics, work like Professor Whitehead's, strikes a reader familiar with Greek philosophy at once as an attempt to get back from Aristotelian positions to the general standpoint of Plato's Pythagorean cosmologist.[63]

Once again the writer must admit that the thoroughness and cogency of Taylor's argument is very impressive. Yet it must be pointed out that his whole theory is only an hypothesis which may or may not be true. Texts can be quoted on all sides both for and against his argument. Furthermore, this hypothesis rests on a former hypothesis, namely, that the argument being presented is that of Timaeus, a Pythagorean cosmologist, rather than that of Plato himself. It may be that Taylor is stretching a possible hypothesis too far. That which is possible is not always probable; likewise, one may say with Cornford that what is cogent is not necessarily convincing.

<u>The interpretation of reason and necessity in the constitution of the human organism</u>. The co-operation of Reason and necessity is exhibited in the work of the created gods. "Their task," says Cornford, "is to frame the mortal parts of the soul and the bodily organs to house them." While Cornford is willing to admit that henceforth "the interest of intelligent purpose again predominates," he is unwilling to grant Taylor's claim that reason eventually completely controls irrational necessity. Outside of this basic difference of opinion, there is little

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63. Taylor, CPT, 677.

disagreement between Taylor and Cornford. Both seem to be impressed with (if not somewhat embarrassed by) the fact that the entire section from 69A on is quite antiquated from the point of view of contemporary anatomy and physiology. Yet, undaunted, Taylor employs his usually thorough analysis, giving careful attention to a tripartite psychology of man.[64] Cornford, being a little less adventurous, appears to join Taylor in uttering comments of the broadest generalities relative to the so-called co-operation [This is Cornford's word. The writer questions its usage. Is it not an over-statement if not also an over-simplification of the situation?] of reason and necessity.[65] Aside from the one difference of opinion already indicated, neither Taylor nor Cornford seem to have developed any outstanding distinctive interpretation of the passage.

In retrospect, the writer observes the long road which has been traveled. Several distinctive interpretative emphases have been singled out. It has been observed that differences between Taylor and Cornford have largely occurred in their differing approaches to the dialogue, their concepts of the Demiurge, the execution of the works of reason--particularly as to the extent of reason's control of necessity, and their disagreement over any attempts to modernize the philosophy of science on the basis of an at least implicit but positive

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64. Taylor, CPT, 496ff.

65. Cornford, PC, 279ff.

evaluation of the root principles of physics as found in the *Timaeus*. With these distinctive points of view in mind it is now appropriate that a critique be attempted of these conflicting interpretations as a whole.

CHAPTER IV

A CRITIQUE OF THE INTERPRETATIONS OF TAYLOR AND CORNFORD

Cornfordian vs. Taylorian approach. As was pointed out earlier in this study,[1] Professor Taylor has interpreted the Timaeus on the basis of several distinctive hypotheses. The most outstanding of these is the contention that the theories set forth are not original discoveries of Plato but are the personal speculations of Timaeus. This basic assumption calls forth another which is directly connected with it, namely, that the philosophy of physical science presented by Timaeus "owes a very special debt to two fifth-century thinkers in particular, Empedocles and Diogenes of Apollonia."[2] Thirdly, it was observed that Taylor traces a large section of the dialogue to the Pythagorean science of the fifth century and interprets it from that standpoint. The fourth distinctive feature of Taylor's approach is his attempt to equate the scientific utterances of Timaeus with similar pronouncements of Aristotle and particularly of Professor Alfred North Whitehead.

That Professor Cornford should oppose certain of these hypotheses as "a new Taylorian heresy" is easily understood.[3]

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1. Chapter III, p.

2. Taylor, CPT, ix.

3. Cornford, PC, viii. Cf. also Xenophon's refutation of the view that the argument of the dialogue is that of Timaeus rather than of Plato in Mem., IV, Chap.3, sec.13.

To begin with there is no conclusive evidence to prove that Timaeus either was or was not an historical personage. To build an elaborate argument upon such shifting sands of higher criticism, as Professor Taylor has done, can at best only be regarded with suspicion.[4] As for Taylor's historical researches into fifth-century Italian Pythagoreanism, two comments are called forth. On the one hand, it must be admitted that there is some sort of 'an attempt to graft Empedoclean biology on the stock of Pythagorean mathematics'-- this, in spite of Cornford's desire to dispose of the theory in a wholesale manner.[5] On the other hand, such a theory as this--even in view of the splendid array of Taylorian scholarship--should be taken as no more than it actually is, simply a possible yet questionably probable hypothesis. This latter remark is intended as being applicable to both the Empedoclean and the Pythagorean aspects of Taylor's hypothesis. With regard to Taylor's attempt to retranslate certain of the concepts of the Timaeus into the terminology of Whitehead, for instance, the writer finds this to be an important as well as an interesting correlation. To be sure, Taylor has exhibited a tendency to carry this too far and Cornford's remark that "there is more of Plato in the <u>Adventures of Ideas</u>

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4. Note that Professor Edwin Lewis in his most recent work, adopts the "Taylorian heresy." "The view is not Plato's own, but is set forth by Timaeus himself, speaking as a Pythagorean scientist." Lewis, PCR, 213.

5. Taylor, CPT, 18: Cornford, PC, viii, ix.

than there is of Whitehead in the Timaeus" is well-taken.[6] This simply means that Taylor approached a very significant and profitable study from the wrong direction; he has produced an eisegesis rather than an exegesis. To read into the Timaeus, Whitehead's Process and Reality and Adventures in Ideas is a preposterous procedure. Yet it is quite obvious that Professor Whitehead has not only been directly influenced by the Timaeus but has admittedly drawn from it. It is the opinion of the writer, therefore, that as far as attempting to ferret the scientific aspects of the argument of the dialogue intended by Plato to be understood by his readers is concerned, Cornford's method of basing his commentary on the traditional assumptions and his attempt to illustrate Plato's thought in the historical setting of Plato's century, is by far the safer procedure, although, to be sure, it is not the most colorful and challenging, simply because the novelty of Professor Taylor's distinctive hypotheses is absent. Neither the presence nor the absence of novelty, however, should sway the student in his search for truth.

The writer's interpretation of the nature and status of the Demiurge. Probably the most important difference of opinion between Taylor and Cornford is with reference to the nature and

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6. Cornford, PC, xi, xii. In fairness, however, we must note Whitehead, AI, 192, 193. "The space-time of modern mathematical physics, conceived in abstraction from the particular mathematical formulae which applies to the happenings in it, is almost exactly Plato's Receptacle."

status of the Demiurge. As has previously been shown, differences in one's concept of the Demiurge can radically condition the entire course of one's interpretation of Plato's argument.[7] It is, undoubtedly, primarily because of Taylor's confusion of the Demiurge with the God of Christian theism that he is unable to admit with Cornford that reason never completely subordinates or controls irrational necessity. It is in consideration of these factors that the following interpretation of the Demiurge is presented.

Of preliminary significance is the term which seems to be Plato's favorite designation of God in action. This term, Demiurge (δημιουργός) may, perhaps, be best rendered as Artificer or possibly World-Artificer. The German equivalent, Werkmeister, used by Apelt,[8] is very suggestive and obviously a more accurate rendering of the original, i.e., "a master of work." Apparently, the Greek term, however, is of a proletarian coloring. God is the people's worker, their artisan, controller. This latter connotation is inherent in the very etymology of the word: δημο -- εργος, thus, the worker of the people.

The second basic designation of God is a term which ultimately seems to have been meant as an equivalent of Demiurge. Yet this second term stresses the mental activity of

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7. Chapter III, pp., 26, 27.

8. Apelt, PDTK, Tim., 29E.

God rather than God necessarily in action. The term to which reference is made is Nous (νοῦς). Obviously this term is suggestive of the Nous of Anaxagoras. As the two terms are employed throughout the dialogue, Plato seems to view the Demiurge as the living embodiment of Nous or reason. Thus the person of the Demiurge is the living embodiment, the agency of the Nous, the rational element in the Universe.

The question is now asked, is the Demiurge a genuine Creator in the sense that He brings things into being ex nihilo? This is obviously not the view which Plato is seeking to convey to his reader although one must admit that it is a not too unusual conception in popular Judaeo-Christian theology. Rather does Plato portray the Demiurge as an agency for the bringing of order to a universe of pre-existing chaos. The Demiurge simply desires (βούλομαι) that "all should be, so far as possible, like unto Himself."[9] The motives for this willing are (1) that He naturally prefers perfection to imperfection, (2) He is without jealousy, (3) He prefers order to chaos, i.e., He goes through a process of evaluation of perfection and imperfection, order and chaos. This fact, moreover, is implied by Plato's choice of verbs. It will be observed that he uses βούλομαι which implies more strongly than θέλω (which he would have used if no deliberate or set purpose were involved) the deliberate exercise of volition. Note that the similar statement of this

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9. Bury, Tim., 30A.

fact in Genesis is merely descriptive of the state of the Universe and of God's observation after the bringing of order out of chaos. Ἡ δὲ γῆ ἦν ἀόρατος, καὶ ἀκατασκεύαστος ... καὶ εἶδεν ὁ θεὸς, ὅτι καλόν. וְהָאָרֶץ הָיְתָה תֹהוּ וָבֹהוּ ... וַיַּרְא אֱלֹהִים כִּי־טוֹב׃[10]

As Dr. Werkmeister points out, it is quite clear that the use of 'word' in the Bible is very definitely a magico-religious use of the term as designating the "medium through which the world came into being."[11] If there is any connection between the Hebrew conception of the Universe being created by the Word of God and the Greek idea of the Demiurge imparting rational ("logical," from λόγος, word) order to a preexisting chaos characterized by undiscovered or otherwise (i.e., in the absence of the Demiurge) undiscoverable relations, it may well be based upon an evolution in the content of meaning from וַיֹּאמֶר, designating divine utterance, fiat, to λόγος, designating logical or rational content or λογισμός, denoting the psychological process of a dialectic--in this connection designating a rational ordering of things.

Attention has previously been called to Professor Cornford's objection to Dr. Taylor's emphasis upon "God." One reason for this objection seems to be due to Plato's later usage of the plural forms θεοὶ and θεαὶ instead of the usual term θεός.[12] Says Cornford, it is impossible to "agree with Taylor's

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10. Rahlfs, VTG, and Kittel, Bib. Heb., Gen. 1:2,10.

11. Werkmeister, PS, 113-114. Cf. Gen., 1:3. Ps., 33:6; Heb., 11:3; etc.

12. Bury, Tim., 39E-40C; Cornford, PC, 101-102.

statement that 'all through the story there is only one God who can be called everlasting, the Creator himself.'"[13] He is referring, of course, to the ζῷα θεῖα καὶ ἀΐδια which include the fixed stars and the planets and the earth as the most "venerable of the gods within the Heaven," all these being of the number of τῶν ἐν οὐρανῷ θεῶν as in the Republic.[14] Mere pointing out of this fact, however, is not conclusive proof of Cornford's objection and substitute thesis. While these living creatures, even the heavenly gods themselves are endowed with temporal life that moves in time and lasts throughout all time, this is not the eternal duration (αἰών) which was the primary characteristic of the model.[15]

Cornford's chief objection to the Demiurge described by Taylor is as a personal God. This objection is offered on the basis of an efficient God. If the Demiurge directs His view on the final cause and attempts the best possible, then the final cause is within the very nature of God. The mere fact that the Demiurge is never characterized as ψυχή (soul), is no reason to reject the concept which is offered. Absence is no argument, for the fact of the matter is that ψυχή is often tied up with the biological organism as in Saint Paul.

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13. Taylor, CPT, 184.

14. Bury, Tim., 40B. cf. Rep., 508.

15. Bury, Tim., 30C-31A.

Among the numerous descriptions of the Demiurge, the following offer a well rounded conception of His nature and status. He is represented as

(1) the object of prayer for divine guidance [Note that when Socrates speaks of θεοί, it is κατὰ νόμον. Timaeus speaks of θεός, i.e., he is not speaking of mere traditional, customary gods but God (θεός).];
(2) the poet or maker (ποιητὴν τοῦ παντός);
(3) the technician (ὁ τεκταινόμενος);
(4) the Demiurge (δημιουργός);
(5) good, and therefore a suitable object of worship;
(6) God who desires good (ὁ θεός, ἀγαλμά);
(7) the begetting father (ὁ γεννήσας πατήρ);
(8) the object of man's fear (τὸ θεοσεβέστατον);
(9) morally blameless;
(10) the father of certain sons (πατήρ, οἱ παῖδες);
(11) concerned with the goodness of man.[16]

To be sure, there is such a controversial phrase as τῶν ἀϊδίων θεῶν γεγονὸς ἄγαλμα .[17] This is the <u>only</u> assertion of <u>eternal gods</u> in the entire dialogue. Thus Taylor suggests that θεῶν here may come from θεά, an object of contemplation, i.e., eternal ideas, although this word is also common to a religious object. Furthermore, it is quite possible that θεῶν may have been inserted either by Plato himself, or by a redactor, as a tactful concession to polytheism.[18]

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16. Bury, <u>Tim</u>., (1) 27B-C, (2) 28C, (3) 28C, (4) 28C and 41A, (5) 29A, (6) 30A-C, (7) 37C, (8) 42A, (9) 42D, (10) 42E, (11) 42E.

17. Bury, <u>Tim</u>., 37C.

18. Taylor, CPT, 184-185.

While there is a tendency on the part of some to suggest that Plato was a polytheist (so hints Cornford[19])--one can understand his reason for so doing--Plato's occasional shift from ὁ θεὸς to οἱ θεοὶ or αἱ θεαὶ does not necessarily mean polytheism but rather may be viewed as substantially monotheism. God may be regarded as the ever-abiding basis of change to be observed only as a theophany. This has a marked similarity to the Godhead and three Persons of the Christian theistic Trinity.[20] While the fact that Plato does allow θεοὶ to creep into his story (as in 37) gives the interpreter no little trouble, it is significant to observe that when Plato is specifically describing the operations of rational purpose in the universe, he is then very careful to speak of θεὸς as the one who is the active agent of these operations.[21]

As the Demiurge, God is pictured as possessing goodness as His chief characteristic. He always aims at the very best simply because He is the living embodiment of the good (He is regarded as efficient cause). Even Cornford, who often is very caustic, especially when reference is made to the religious nature of the Demiurge, is willing to speak of man as a reflection of the divine nature of the Demiurge. Says Cornford, in a choice passage which has been previously quoted herein,

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19. Cornford, PC, 99-102.

20. Cornford, PC, 101-103.

21. Cf. Tim., 29A, 30A-B, 46D, etc.

> The kernel of Plato's ethics is the doctrine that man's reason is divine by reproducing in his own nature the beauty and harmony revealed in the cosmos....[22]

To be sure, Cornford is not admitting the Demiurge to be equal with the Christian conception of God, but it seems quite obvious [The writer considers this to be very significant] that, whether he knows it or not, Cornford has been driven to interpret Plato in terminology which is very close to that of the Christian Church.[23]

Probably one of the most important distinctions necessary in defining the Platonic Concept of God is that which exists between the Demiurge and the Model or Pattern (παράδειγμα) in view of which he operates. Is not the latter an Idea, a final cause, i.e., the Idea of the Good? In view of this the Demiurge is not an Idea. Ideas are usually specified by Plato as <u>objects of</u> intelligences (not intelligences) while the Demiurge of the <u>Timaeus</u> is obviously meant to be regarded as the personification of the Nous. As Bury points out, however, while this distinction which has just been made is on first blush quite clarifying, it leads into still deeper water.[24] The

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22. Cornford, PC, 34. Cf. Chapter III, p29.

23. Compare the terms of his statement with <u>Genesis</u> I: 26-27. Note, too that the LXX along with Philo, <u>Op.</u>, Io uses εἰκών, the very same word Plato uses in translating בְּצַלְמוֹ. נַעֲשֶׂה אָדָם בְּצַלְמֵנוּ כִּדְמוּתֵנוּ וַיִּבְרָא אֱלֹהִים אֶת־הָאָדָם בְּצַלְמוֹ :... For an exposition of Philo's concept of creation, Cf. Courheen, Art., (1914).

24. Bury, <u>Tim.</u>, 9-11.

problem is now that of the relation of Reason to Soul. If the Demiurge is constructed of the Soul, and Reason and Soul are supposed to be separate, the relation is still unclear. Yet, if, on the other hand, Soul is the first cause of motion, and Reason possesses motion, Soul must be prior to Reason.[25] Bury suggests that Reason be regarded "as a species of Soul, a part of Soul,"[26] and concludes that "the Demiurge is no separate Power or independent Divinity, but merely a part or faculty of the World-Soul, his apparent independence being due solely to the mythical form of the exposition."

Both Bury and Cornford may be right here, yet does it not seem that Taylor has adequately refuted both as has been previously pointed out?[27] Admittedly, however, the writer is willing to concede that Plato's argument limps here. Especially is this so when by introducing several important concepts without defining each separately, Plato has only clouded the issue.

Plato intended the Timaeus as a serious attempt at a cosmology in spite of the fact that at times, poet that he was, he has produced more of a cosmogony than a cosmology. Nevertheless, it is clear that he was striving for a satisfactory principle for his explanation of the universe. From the evidence presented, it is obvious that he found this principle in the

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25. Cf. Cornford, PC, 39.

26. As in Rep., 435Eff. Cf. also Tim., 37B-C.

27. Chapter IV, pp. 61-62.

concept of teleology. When he strove for a satisfactory, inclusive, mode of expressing this principle, he fumbled, but only after a supreme effort. As Kant struggled with autonomy, heteronomy, and theonomy so Plato was puzzled as to which way to turn.[28] But, at any rate, while Plato's inconsistency must be admitted in spite of Cornford, a fair comparison of the text of the dialogue with the commentary of Taylor will eventuate in favor of Professor Taylor's view as more nearly approaching Plato's concept of God. Archer-Hind's confusion of the inclusiveness of the World-Soul with a pantheistic, or more accurately a panpsychistic view of the universe, is quite understandable.[29] Plato's concept of God is so distinct and outstanding that it seems quite clear that he must have meant it to be more than a mere mythological sop to some of the religionists of his day.[30] Therefore, the writer concludes that one is quite justified in referring to the Demiurge as God, a concept which, whether Cornford (or Demos, or Helsel!) agrees to it or not, is in many

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28. Witness the confusion that was in Kant's mind when he penned Opus Postumum.

29. Archer-Hind, TP, 44-46, 116.

30. The writer insists that in the main Plato's concept of God is fairly understandable--this in spite of Demos' remark with respect to the "very considerable vagueness of the discussion of the dialogue," and Dr. Paul R. Helsel's obstuse, not to mention sarcastic remarks to the contrary. Cf. Demos, PP, 99, and Helsel, Art. (1941), 194. In support of the contention that Plato had done extensive thinking upon the subject, cf. his Euthyphro, the first critical philosophy of religion, (ca. 400 B.C.), and Laws, 893B-899, the first theistic argument in history, (ca. 350 B.C.).

respects almost synonymous with the God of the Judaeo-Christian tradition. While He does not create ex nihilo, He does act as the embodiment of the rational principle of the universe, giving order to what otherwise would be chaos. As in the parable of Jeremiah, He is the Potter moulding the clay, or, to use Plato's own phase, He is ὁ κηροπλάστης, the wax-moulder.[31] In one outstanding respect does He differ from the God of Christian Theism: He is finite because faced with the eternal irrational principle against which he must constantly strive. And even this aspect of God's nature may be found implicit in the biblical figure of the suffering God.

Persuasion: the mediating factor between reason and necessity. As previously pointed out, the problem which Plato is considering in the Timaeus is that of the process whereby the World, or more specifically, the World-Soul, was built up into an harmonious structure. In other terminology, it is the problem of the evolution of the kosmos out of a pre-existing chaotic state. As to what was the nature of Plato's hypothetical solution of the problem, it is the purpose of the present section to examine and to criticize.

Plato's approach is basically an attempt to offer a teleological explanation of the universe in contrast to the mechanistic explanation of the atomistically minded pluralists of his day. To state that Plato's approach is teleological, how-

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31. Cf. Jer., 18:1-6 and Tim., 74C.

ever, is only to scratch the surface, for the nexus of the problem which Plato is considering is the relationship between νοῦς and ἀνάγκη. Moreover, Plato is very discerning in the distinction which he draws between cause proper, i.e., final cause, and auxiliary cause, which he regards as the sum of necessary physical conditions. Not only vaguely suggestive of but vitally related to this distinction is the parallel distinction between the operation of νοῦς or the intelligent factor and ἀνάγκη representing the world of necessity. The divine νοῦς, which in all things designs the best, is not always able completely to realize these designs because of an intrinsic, incorrigible element everlastingly not only subsistent in the World but present prior to its being made. Always concerned with the niceties of rhetorical expression, Plato presents this relationship, a basic problem of his metaphysics, in the garb of a cosmogonous cosmology.

At this point, before proceeding to the actual analysis of this problem in terms of νοῦς, ἀνάγκη, and πειθώ, it may be worthwhile to make reference to Whitehead's critical consideration of Law. Faced with the task of an analysis of law, Whitehead observes that the intellectual world has usually divided itself into four groups or schools, viz., the school of Immanence, the school of Imposition, the Positivist school of Observation (i.e., mere description), and the school of Conven-

tional Interpretation.[32]

> Plato in the Timaeus affords an early instance of wavering between the two doctrines of law, Immanence and Imposition....Plato's cosmology includes an ultimate creator, shadowy and undefined, imposing his design upon the Universe. Secondly, the action and reaction of the internal constituents is--for Plato--the self-sufficient explanation of the flux of the world:--"Nothing was given off from it, nothing entered it,--there was nothing but itself."

Striking is the fact that Whitehead comes to the conclusion that since apart from some notion of imposed Law, the doctrine of Immanence provides absolutely no reason why the universe should not be continually tobogganing into a lawless chaos.

> The Universe, as understood in accordance with the doctrine of Immanence, should exhibit itself as including a stable actuality whose mutual implication with the remainder of things secures an inevitable trend towards order.

Thus he finds that "the Platonic 'persuasion' is required."[33] With this preliminary statement, indicative of the role and significance of πειθὼ as the mediating factor between νοῦς and ἀνάγκη, an actual examination of these three vital factors is in order.

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32. Whitehead, AI, 154. Observe Whitehead's combination of immanent and transcendent factors in his concept of God. "The notion of God...is that of an actual entity immanent in the actual world, but transcending any finite cosmic epoch--a being at once actual, eternal, immanent, and transcendent. The transcendence of God is not peculiar to him. Every actual entity, in virtue of its novelty, transcends its universe, God included." PR, 143.

33. Whitehead, AI, 146-147. Cf. Bury, Tim., 68D, E where the "self-sufficient" explanation is described as a God who "is sufficiently wise and powerful to blend the many into one and to dissolve again the one into many" in contrast to mortal man. In D, the Artificer is described as engendering the self-sufficing or autarkical (τὸν αὐτάρκη) and most perfect God.

Νοῦς may be described as that element in the universe which is and expresses itself as Intelligence. It is the principle of order (κόσμος) as contrasted by the principle of chaos, or to use Plato's terminology, "wandering cause" (πλανωμένη αἰτία). In the second place, this element is an eternal Given of the universe. Thus νοῦς is in the role of World-Artificer (δημιουργός), it being similar to the νοῦς of Anaxgoras. The Demiurge, moreover, is described by Plato as desiring (βουληθείς) that "all should be so far as possible, like unto Himself."[34] In this spirit, He imparts order to the world, acting without jealousy, naturally preferring perfection to imperfection, and likewise order to chaos. As has been previously noted Plato's choice of a verb here is very significant. Βούλομαι is used rather than θέλω. The former implies a deliberate, probably reflective exercise of volition, while the latter implies no deliberation or set purpose. Not a creator in the sense of creating ex nihilo, the Demiurge only imposes order and system on a preexisting chaos.

Of important local color is the obvious fact that the Platonic πειθώ, especially as expressed by the Demiurge, is in direct contrast to the mechanistic principle of the atomists. Νοῦς is the regulating, integrating and thus unifying principle of the universe and as such is a significant stride by way of a refutation of the philosophy of the atomists.

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34. Bury, Tim., 30A.

That the Demiurge is not the only agency of νοῦς is seen by a close examination of those sections of the dialogue where Plato uses the plurals, θεοὶ and θεαί.[35] The gods or goddesses, as the case may be, are the delegated agents of ὁ θεὸς in effecting His divine purpose. While there is only the one God who can be called everlasting, the introduction of these auxiliary agents would seem to indicate that Plato is picturing God not only as dependent upon other persons to effect his purposes, but that he shares this rationality with other kindred spirits.

Turning to Necessity (ἀνάγκη), Plato confronts the reader with an irrational element in the universe. This element is an irrational Given, or as Taylor calls it, "brute fact."[36] It is the πλανωμένη αἰτία, the wandering, rambling, aimless, irresponsible, erratic, or errant cause.[37] Yet, the most striking representation of ἀνάγκη, is to be found in the somewhat synonymous term, "Receptacle" (ὑποδοχή).[38] This "Receptacle"

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35. Bury, Tim., 39E-40C.

36. Taylor, CPT, 300ff.

37. Note that the evil factor in the universe as conceived by Plutarch is at once remarkably similar to and strikingly different from the concept of irrational necessity or Receptacle as pictured in Plato's Timaeus. The basic difference is that Plutarch has personalized the evil factor in Typhon who is said to be the enemy of Isis. In Mor, 351F, he is described as "Conceited...because of his ignorance and self-deception." If ignorance is defined as a lack of knowledge of the rational then ignorance is almost synonymous with the of Plato.

38. Bury, Tim., 48E-49A.

is a further attempt on Plato's part to explain his standpoint in contrast to that of the atomists. Very acute is Plato's distinction between the "wherefrom" which is the timeless pattern and the "wherein" which is the timeless "Receptacle."[39] Contrasting the necessity of the "Receptacle" and the rationality of the νοῦς, Demos finds the Receptacle to be that aspect of brute fact in things and which in rational action is characterized by self-determination.[40] Necessity is "the givenness of ideas,...their sensible immediacy. Fact is what we find and are compelled to accept." As the irrational factor in Nature, the Receptacle, says Demos, "affirms its own indeterminateness against the Demiurgos who impresses it with the forms and thus perpetually defeats him by the method of passive resistance."[41] From this the investigator may gather that Plato does not mean the Receptacle to be regarded necessarily as evil but merely as indeterminate, and, in this sense, antithetical to the Demiurge. Mere indeterminacy, however passive it may be, nevertheless, when taken cumulatively, can have active force and thus is everlastingly in the act of defeating or at least retarding the progress of the purposive will of the θεός. This portrayal of necessity as being only active in a cumulative sense is quite tame compared with Plutarch's description of Typhon who,

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39. Bury, Tim., 50C.

40. Demos, PP, 35.

41. PP, 36.

"prompted by jealousy and hostility,"..."wrought terrible deeds and by bringing utter confusion upon all things, filled the whole earth, and the ocean with ill." This bears a strong resemblance to the concept of a devil so common in naive religious realism. Yet it is undoubtedly better to accept the more conservative passive irrational factor of Plato than to lose oneself in the exaggerated active evil of the highly imaginative Typhon presented by Plutarch![42]

The solution which Plato offers as the key to the relationship between the two antithetical elements is in sharp contrast not only with the hypotheses of the Greek pluralists but also with the theory expressed in Semitic literature as represented in the hagiographa of the ancient Hebrews.[43] The Genesis account of bringing order out of chaos (as has already been remarked in a different connection) is merely a descriptive statement of fact. First there is chaos and then there is a state of

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42. Plutarch, Mor., 361D.

43. Cf. Whitehead's comments on the Platonic and Hebrew hypothesis of origins in PR, 146. "In the Timaeus the origin of the present cosmic epoch is traced back to an aboriginal disorder, chaotic according to our ideals. This is the evolutionary doctrine of the philosophy of organism. Plato's notion has puzzled critics who are obsessed with the Semitic theory of a wholly transcendent God creating out of nothing an accidental universe. Newton held the Semitic theory....On all sides, Plato's allegory of the evolution of a new type of order based on new types of dominant societies became a daydream, puzzling to commentators."

order which the Elohim survey(s) and find(s) to be good. (ἡ δὲ γῆ ἦν ἀόρατος καὶ ἀκατασκεύαστος... καὶ εἶδεν ὁ θεὸς, ὅτι καλόν. —— וְהָאָרֶץ הָיְתָה תֹהוּ וָבֹהוּ... וַיַּרְא אֱלֹהִים כִּי טוֹב :...).[44] While the Hebrew account describes things on the basis of a divine fiat, Plato actually provides an hypothesis which is a genuine attempt to explain the nature of the process as process.[45] The key to this process, he finds in the word persuasion. But what is the meaning behind this word, and the other words connected with it? Reason, Plato says, controls necessity by persuading her to conduct to the best end the most part of the things coming into existence. It is δι' ἀνάγκης ἡττωμένης ὑπὸ πειθοῦς ἔμφρονος that this universe is constructed. Intelligent persuasion here is thoughtful, prudent, sensible, understanding (ἔμφρονος) persuasion. Reason, moreover, is said to control (ἄρχοντος , i.e., rule) and to cause to yield (ἡττωμένης , i.e., to make inferior, "to be inferiored.") The use of these verbs ξυνεπιστώμενος, ἄρχοντος and ἡττωμένης

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44. Kittel, Bib. Heb., and Rahlfs, VTG, Gen. 1:1-10. Cf. also the concept of Tiâmat, the monster in Babylonian mythology which strove against Marduk, the Sun God, as discussed by Brightman in Art. (1939), 19-21.

45. Cf. Whitehead again. "Both for Plato and for Aristotle the process of the actual world has been conceived as a real incoming of forms into real potentiality, issuing into that real togetherness which is an actual thing. Also, for the Timaeus, the creation of the world is the incoming of a type of order establishing a cosmic epoch. It is not the beginning of matter of facts but the incoming of a certain type of social order." PR, 147.

would seem to indicate that necessity, at least, has been subordinated if not actually subjugated or conquered by reason. Yet conclusions must not be drawn prematurely. An argument based merely upon words extracted from their context can be and is in this case, the writer believes, somewhat misleading.

How does Plato really intend that πειθὼ should be understood? To say that persuasion implies complete control, even annihilation of necessity by reason is not Plato at all. It savors of the catastrophic element so common in the apocalyptic literature (particularly the apocraphal writings) of Christian scripture and theology.[46] On the basis of Plato's context, no such complete subjugation of necessity is even implied to say nothing of actually being suggested.[47]

What, then, is the meaning of Platonic persuasion? Is not the answer to this question suggested by the durative

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46. Such annihilation is a favorite theme in Plutarch's De Iside et Osiride. In Mor., 370B, Plutarch speaks as though the evil principle personified by Typhon is to be completely annihilated. While this concept is directly contrary to Plato's concept of persuasion which is an unendliche Aufgabe, it bears a striking resemblance to two N.T. passages. In Rev., 20:10, the beast, after being released for a period, is finally conquered and cast into the lake of fire and brimstone for everlasting torment. Yet, even this is not the everlasting annihilation [but complete control] spoken of by Plutarch. In I Cor., 15: 25-28, the resemblance is stronger, for there Paul states that death shall be done away with.

47. In this connection it is interesting to observe Brand Blanshard's identification (in the field of logic) of system with logical necessity. The irrational, he holds, must be completely persuaded. NT, 335-355.

Aktionsart of the verb πείθειν , and does not this suggest the eternal nature of necessity as an everlasting problem, an unendliche Aufgabe, confronting the Demiurge who must always be persuading Necessity rationally to conform to its will? In this connection, Demos observes that since the Receptacle can be persuaded, it must have a degree of intelligence whereby it can be persuaded, understand, and obey reason.[48] Yet this seems unnecessary as well as far-fetched. Is not accessibility to intelligence alone needed? Sense must not necessarily be reason simply because reason can master it. That there are forces (not only visible, as Plato specifically noted, but invisible as well) eternally, i.e., now and always at work in Nature, that are not completely subdued in the sense of annihilation or complete domination, I think we must by this time admit. What Plato is trying to say is that in the world as a system, nothing ever really happens except by choice of a rational will although the actual content of this process is to a large extent in the nature of ἀνάγκη . Indeed, as Cornford observes, and as Taylor admits by his extended treatment of the problem, it is rather difficult to believe that Plato would have devoted one third of his cosmology to the products of necessity as opposed to the works of reason, if he had meant nothing more than that naught

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48. Demos, PP, 43. Cf. Whitehead, AI, 240. Reason, he says, is a personal unity. Possibly this is a source for Demos' view. Plutarch's personalization of evil as Typhon may also have influenced Demos in the development of his view.

comes about of necessity except under reason's complete control.[49]

What now is the resultant situation between νοῦς and ἀνάγκη ? On the basis of this introductory survey of the nature and operation of intelligent persuasion upon necessity, it is now *à propos* to the problem to ask as to the resultant situation between νοῦς and ἀνάγκη . To begin with, it is obvious that Plato has interwoven myth and scientific cosmology throughout the entire section from 69B-92C. Be that as it may, however, this need not obscure the fact that both metaphysically and ethically, this relationship between νοῦς and ἀνάγκη which has been discussed on the basis of πειθὼ as a mediating factor is one of necessary interaction. From a metaphysical standpoint it is possible to say that this interrelationship brings about the universe as a whole. On the human level, the same process,--that of controlling necessity by intelligence or rationality--must operate in any ethical situation. Viewed in this light, the writer likes to regard the *Timaeus* as the original *Preface to Morals*.[50]

A second observation which should be made concerns the question of monism, dualism, and pluralism. It has been observed, and the writer believes correctly, that Plato has intentionally attempted to escape the pluralism of the atomists. To

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49. Cornford, PC, 273.

50. Cf. Lippmann, PM. This fascinating aspect of the *Timaeus* will be discussed presently.

a certain degree, Plato has avoided such an atomistic pluralism and he is to be commended for it. In this way, the great poet-philosopher has achieved a definite unity and thus has presented the people of his day with a view of the universe which cuts sharply across pluralistic atomism. A disorganized universe of scattered atoms falls into place in the whole. One must not be too enthusiastic over this, however, for if Plato is read with discrimination it will be discovered that he has only succeeded in presenting his student with a dualism. As Demos has correctly noted, the whole bent of the Platonic argument is anti-monistic. "Plato's mind is sensitive to the complexity of the cosmos as disclosing a plurality of phases.[51] If one is to explain or attempt to explain this relationship between reason and necessity on a basis of teleology (and this would seem to be Plato's aim), it will be necessary to regard the concept of purpose (as effected by reason) as descriptive of a God or outstanding Purpose which works in a universe including Him, but only as a part of the whole, a part which no matter how important and powerful is to some degree limited or restricted by other factors within that whole. With reference to Plato's God, these elements are external, and thus Plato's God becomes a part of a larger whole.[52] Professor Brightman's theory which re-

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51. Demos, PP, 123.

52. It might be noted that Demos finds little that is objectionable in this dualism, never considering it worthy of serious adverse criticism.

verses the situation by including these elements in his idea of God (while not without its difficulties) seems to the writer to be a definite advance upon this aspect of Plato's work in that he has achieved the much sought after monism.[53]

The metaphysics of the Timaeus as a basis for Plato's theoretical and applied ethics. The immediately preceeding study, it is hoped, has provided a Weltanschauung that is essentially Platonic in its recognition of the two antithetical factors, νοῦς and ἀνάγκη, which eternally must interact on the basis of rational persuasion. That the familiar Platonic dualism as well as the Democritean atomistic pluralism might be avoided, Professor Brightman's modification which places both rational and irrational factors within the nature of God has been admitted as both a cogent and possible hypothesis which may be helpful in untying the knotty metaphysical problem which Plato has so beautifully set forth, yet, to be sure, has hardly solved. The suggestion has been made that the Timaeus may well be looked upon as Plato's introduction to ethics or "preface to morals.[54] Not alone in this conviction the writer would refer to Whitehead's pointed remark that

> there is [a] side to the Timaeus which finds no analogy in the Scholium [of Newton]. In general terms, this side of the Timaeus may be termed its metaphysical character, that is to say, its endeavor to connect the behaviour of things with the formal

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53. Brightman, FG, 174-177, PR, 336-340.

54. Cf. p. 77.

> nature of things. The behaviour apart from the things is abstract, and so are the things apart from their behaviour. Newton--wisely, for his purposes--made this abstraction which the Timaeus endeavors to avoid.[55]

If this is so, the dialogue as a basic metaphysical study or Weltanschauung should provide certain Lehnsätze which conveniently may be carried over into a realistic Lebensanschauung which would be sufficiently frank to face both the facts of the universe as a whole and the facts of human experience. With this problem in mind--an aspect of the Timaeus which both Taylor and Cornford almost completely neglect--, it may be well to resurvey the entire argument of the dialogue.

The keynote or theme of the entire problem of which the Timaeus treats is to be found in the famous passage in 28A. Here, besides making the important distinction between τὸ ὂν ἀεὶ and τὸ γιγνόμενον ... ἀεί, Plato also demonstrates, in principle his fundamental "given" of reason and unreason. That which is uniformly (identically, κατὰ πάντα ὄν) existent, is apprehensible by thought with the aid of reason. This is the noumenal aspect of reality. That which is an object of opinion with the aid of unreasoning sensation is that which becomes and perishes, never really being existent. This is the phenomenal order of reality. This latter "non-rational given" produces that which "becomes and perishes" (γιγνόμενον καὶ ἀπολλύμενον) comparable to what Whitehead and Locke describe in terms of "perishing

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55. Whitehead, PR, 144.

occasions." Thus, at the very beginning of Plato's cosmology, there is an implicit distinction drawn between a rational and non-rational element in the universe although it should be observed that in contrast to later usage,[56] ἀνάγκη here refers to purely logical necessity.

Besides laying down the two parallel principles, basic in his metaphysics, Plato almost immediately introduces the Demiurge. It is of particular significance that Plato so early in the dialogue as this should picture the Demiurge in his relations to these two basic principles of reality. While the Demiurge is described as desiring that all things should be good and nothing evil, there is an important qualifying phase, "so far as possible" (κατὰ δύναμιν). Furthermore, the Demiurge, seeing that all things are not in a state of rest but κινούμενον πλημμελῶς καὶ ἀτάκτως, brings order out of disorder (εἰς τάξιν αὐτὸ ἤγαγεν ἐκ τῆς ἀταξίας. Cf. ἀτάκτως, ἀταξίας. This is the first specific statement by Plato of an attempt to control the irrational given.

It is not long before Plato offers a thorough discussion of a rational and irrational given.[57] Three factors are here considered. First, there is Being which is indivisible and always the same. Secondly, there is Being which is transient and divisible into bodies. With these, Timaeus states that God

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56. Bury, Tim., 69Aff.

57. Bury, Tim., 35A,B.

blended a third form of Being, this being compounded out of the two, the Same and the Other. (τρίτον ἐξ ἀμφοῖν ἐν μέσῳ συνεκεράσατο οὐσίας εἶδος, τῆς τε ταὐτοῦ φύσεως ... καὶ τῆς θατέρου.)

As Plato's argument progresses, necessity becomes a factor of ever increasing importance. Yet, as was hinted earlier, there is more than one kind of necessity. To begin with there is logical or rational necessity.[58] Eventually, however, Plato is ready to face the problem of irrational necessity.[59] The terminology which Plato adopts here is of such sufficient difference that it is worthy of note. The Artificer (δημιουργός) is spoken of as taking over certain things and using their inherent properties as subservient causes (αἰτίαις ὑπηρετούσαις). Yet, on the other hand, He Himself designed the Good in all that was being generated. Wherefore (διὸ δὴ), says Timaeus, one should make a careful distinction between two kinds of causes (δύ' αἰτίας εἴδη διορίζεσθαι), the necessary (τὸ μὲν ἀναγκαῖον) on one hand (Here, empirical necessity, non-rational) and the divine (τὸ δὲ θεῖον), i.e., logical necessity.

The significant point has not as yet been made however. Not only is it necessary to make the aforementioned distinctions but one should

καὶ τὸ μὲν θεῖον ἐν ἅπασι ζητεῖν κτήσεως

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58. Bury, Tim., 28A, 37C.

59. Bury, Tim., 68E, 69A.

ἕνεκα εὐδαίμονος βίου, καθ' ὅσον ἡμῶν ἡ φύσις ἐνδέχεται, τὸ δὲ ἀναγκαῖον ἐκείνων χάριν, λογιζομένους ὡς ἄνευ τούτων οὐ δυνατὰ ἀυτὰ ἐκεῖνα, ἐφ' οἷς σπουδάζομεν, μόνα κατανοεῖν οὐδ' ἀπλαθεῖν οὐδ' ἄλλως πῃ μεταοχεῖν.[59]

This is Plato's text for the next section of the argument. The statement implies that Plato considers that mechanism is necessary (as means to ends, data to norms) to teleology.

That Plato thought of the Demiurge as ruling over necessity seems quite clear.[60] Yet as has been shown, this does not seem to be pure omnipotence. Rather is this an eternal problem with the Demiurge who must continually persuade necessity. The task of divine persuasion of necessity is thus an <u>unendliche Aufgabe</u>. As Cornford has understandingly observed,

> if we make [the] Demiurge omnipotent and at the same time attribute to him the modern conception of natural law we shall involve him in the nineteenth century conflict of religion and science.[61]

Cornford is undoubtedly right. Plato, in many respects the first great rationalist, was too farsighted to postulate the providence of an all-powerful God which defies complete rational explanation when confronted with a thoroughly determined chain of causes and effects which have no room for His intervention.

But what--the question still remains unanswered--is the nature of Platonic persuasion? To be sure, logical necessity, rationality, is said to persuade the irrational element in the

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60. Bury, <u>Tim</u>., 48A.

61. Cornford, PC, 37.

universe and thus bring about certain salutary results. Since it is a process which goes on eternally (This is, of course, basically indicated by the durative Aktionsart of the Greek verb.), persuasion cannot be understood as annihilation or complete domination. Nothing happens in the world as a system except by the choice of a rational will (exercised by the Demiurge). Yet, it is of supreme importance that one realize that the content of these happenings is, to a large extent, of necessity. How, then, is one to conceive of the control of the non-rational given? Apparently, there is a very definite active as well as a passive element in the irrational given. In view of this, the writer, personally, prefers to think of the Platonic persuasion in terms of rational direction. It is the rational element, exercised by the will of the Demiurge, which gives direction to the universe. This, when compared with the Timaeus, is quite in accord with the main teleological thrust of Plato's argument. The principle here enunciated--rational direction--may be illustrated by the familiar adage that "you can lead a horse to water but you can't make him drink." Or to use an even more homely example from an even lower level of intelligence, a herd of cows may be led down a country road to a certain pasture, yet the actual urge for locomotion (unless there is such an expression of stubborn waywardness that it becomes necessary as well as practical to employ a sharp goad) must originate in their own wills. To resort to a third illustration, consider the problem which faced some of the larger dinosauria, the forty-foot

long megalosaurus, or the twenty-five foot iquanodon, or even the medium-sized diplodocus. In each of these species there were very small heads--this fact, of course, indicative of the animal's slight brain development and consequent low order of intelligence. What a problem megalosaurus must have had with his small brain and slow reflexes when he wished to move the tip of his tail! Obviously, such an animal is a capital illustration of the immense bulk of slow-to-respond irrationality which challenges the Demiurge to impart to it order and rationality, to give rational direction, if you please, to its lumbering locomotion. The horse which refuses to drink is an excellent example of the partial (at least) frustration of the rational purpose of the Demiurge. The cows on the other hand, especially when wandering aimlessly, are living incarnations of errant cause. The dinosaur, finally, with its immensity and slow reflexes is an example of the obtuseness of irrationality in responding to the stimulus of rational persuasion. In all three illustrations the extent of the positive expression of the divine purpose is a limited rational direction. Personally, the writer is of the opinion that Plato's argument would have been much clearer if he had expanded his concept of persuasion in terms of this directive principle, although one must admit that while it is not at all explicit, this principle is very definitely implied in the argument.

By way of a parenthesis, the writer observes that Plato's postulation of two basic elements, neither of which is

sufficient unto itself, has significant metaphysical implications. Rationality has no concrete meaning (aside from a purely formal significance) except as it can be defined in terms which distinguish it from an irrational element. Furthermore, from an ethical standpoint, it is significant to note that rationality never forces, i.e., actually compels irrationality to respond in certain desired patterns. Rationality always employs rational means which persuasively influence non-rationality. Rationality would be defeating its own purposes if it resorted to violent force instead of rational persuasion in directing the potential yet usually wasted energies of errant cause. Plato here implicitly recognizes that there is no moral or ethical choice without freedom of the will. He is so convinced of this that he even sees the rational given respecting the "hypothetical" will of an irrational necessity, errant cause.

The fundamental principles which have just been set forth have very significant ethical implications relative to the discussion of freedom of the will which is found in later sections of the dialogue.[62] In this later context, the subject of the conversation is abnormal psychology. The nature of disease is spoken of as essentially a mechanism. Yet, there is no physiological determinism on the <u>rational life</u> as Taylor seems to think.[63] Physiological determinism is only admitted on a natural

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62. Bury, <u>Tim</u>., 86A-87B.

63. Taylor, CPT, 610-616.

minimum, i.e., on a purely physiological or biological level.[64] The irrational life, on the other hand, will experience disease and this as mechanistic, just as, given A as cause, B is certain to be the effect. This is not at all inconsistent with a theory of freedom. An observation by Professor Whitehead may be informative at this point.[65]

> The Timaeus connects behaviour with the ultimate molecular characteristics of the actual entities. Plato conceives the notion of definite societies of actual molecular entities, each society with its defining characteristics. He does not conceive this assemblage of societies as causa sui. But he does conceive it as the work of subordinate deities, who are the animating principles of those departments of nature. In Greek thought, either poetic or philosophic, the separation between the φύσις and such deities had not that absolute character which it has for us who have inherited the Semitic Jehovah.[66]

Later on, as if to make sure that he has been correctly understood, Plato gives back much of the freedom that he at first seems to take away. Thus he concludes this section, his "preface to morals," with a plea for rational control of one's life, attempting, if possible, a healthy balancing of the irrational by the rational.

Plato concludes the dialogue with a rather thorough

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64. Cf. this with Professor Werkmeister's philosophy of levels, particularly with reference to his chapter on freedom in PS.

65. Cf. previous quotation, p.79ff.

66. Whitehead, PR, 144.

discussion of the evolutionary hypothesis.[67] "Thus, both then and now, living creatures keep passing into one another in all these ways, as they undergo transformation by the loss or by the gain of reason and unreason."[68] The processes of evolution involve a very definite control of the "given," the reason and unreason of reality. Such a control, a persuasion, or a rational direction of the irrational by the rational is never accomplished without a struggle. This struggle, moreover, involves not only certain gains but as Plato has observed, it involves certain losses, such gains or losses calculated in terms of degrees of reason or unreason. (νοῦ καὶ ἀνοίας ἀποβολῇ καὶ κτήσει μεταβαλλόμεθα.)

It is high time that the loose ends of this argument be now drawn together. What specific connection existed between Plato's concept of God and his representation of the struggle between reason and necessity? As a corollary to this, what are the moral implications of Plato's metaphysics?

The problem of a conflict between reason and necessity, Demos finds, arises out of the very nature of God. This assertion is not surprising. On the basis of preliminary investigations the writer has been firm in his insistence that the creativity of Plato's God is not _ex nihilo_. Rather it is like

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67. Note Whitehead's observation in PR, 143. "The full sweep of the modern doctrine of evolution would have confused the Newton of the _Scholium_ but would have enlightened the Plato of the _Timaeus_."

68. Bury, _Tim._, 92B, C.

> the productive activity of an artisan or a sculptor, working over their materials. Thus the Platonic God is viewed as creating the world by operating upon something which He has not created, a timeless receptacle.[69]

This is a conception which is quite contrary to the first verse of the Genesis account of creation, yet strikingly similar to the sentiment of the third and fourth verses of the account in view of the second verse.[70] Creation, Demos observes, is transformation, a transformation which consists in the introduction of order into chaos, "the directing of the powers and motions of the receptacle so that they will work for the best."

It is by this time the assumption of the writer that Plato's world was the product of two "causes," reason and necessity or "errant cause." If one is to present a complete geogony, references to these operations of the so-called "errant cause" must be included. Demos has described reason and necessity as active and passive, respectively. In the large, this is probably a fairly accurate representation. Yet, is there not a sense in which one can think of necessity with its great potentialities by which it limits God, in a very true way, as active? The passivity of the Receptacle is not simply a detached unconcern for the purposes and workings of reason. Rather is it a passivity which, because of its bulk and restraining influence,

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69. Demos, PP, 106.

70. This, of course, is on the assumption that the meaning of בָּרָא is certain. The LXX is of little help since it uses the "innocent," Platonic ἐποίησεν .

is potentially if not actually active. Hence, there seems to be good reason to object to Demos' blanket term "passive" for it fails to explain the interaction which goes on in the eternal conflict between reason and necessity. Even Demos implicitly admits this when he observes the resistance of the Receptacle as "frustrating" God.[71]

In consideration of this unendliche Aufgabe, then, the following observations on God must be made. Plato's God (1) is not omnipotent, (2) is not the author of evil, (3) is the author of the good in the world, (4) is limited, even frustrated to a certain extent, although never completely, (5) wages undying warfare against all evil,[72] (6) finds Himself confronted by evil as a fact, a resisting power, and (7) attempts to make the best of His limitations by an enduring resistance to this independent, eternal factor, errant cause. Each of these observations, as will presently be seen, has a very definite application to the human sphere of moral action.

The unendliche Aufgabe would appear to be the great basic question of Plato's conception of the universe. It is both a problem to man and a problem to God. God "is the divine providence as well as the divine creator...,the continuing cause of creation."[73] Try as one will, he can never get away from the

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71. Demos, PP, 106.

72. Cf. Laws, 906A, where this is said of "the gods."

73. Demos, PP, 607.

fact that Plato sees the world as dependent on God. He is the Creator of the world in the sense that, as ordered by God, it is in timeless dependence on Him. He is cause, the world is the effect. Says Demos, "the world is an everlasting revelation of God. God is the principle necessary to account for the relatedness of the ideal pattern to the receptacle."[73] It was this matter of revelation undoubtedly--it is obviously in Plato--that Archer-Hind, deriving his immediate inspiration from the Neo-Platonists, misconstrued and eventually allowed to sprout into a full-grown pantheistic conception of the universe.[74] To be sure, the world, as cosmos, endures because God wills it thus.[75] Yet this is not a pantheism. Plato's comparison of the gods to commanders of armies, physicians, and farmers is a far cry from such a notion.[76] Rather is He the great agent who continuously imparts cosmos to an otherwise potentially irrational universe.

Very much to the point is the chief characteristic of God as He deals with the affairs of men and nations. As has been previously seen, when reason is confronted by necessity, reason <u>persuades</u> or continually attempts to persuade (and with some degree of success) errant cause. Whitehead's observation on persuasion as a principle of international relations is well taken.

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74. Archer-Hind, TP.

75. Bury, <u>Tim</u>., 41A.

76. Plato, <u>Laws</u>, 906A.

> The compulsory dominion of men over men has a double significance. It has a benign effect so far as it secures the co-ordination of behaviour necessary for social welfare. But it is fatal to extend this dominion beyond the barest limits necessary for this co-ordination. The progressive societies are those which most decisively have trusted themselves to the fourth factor which is the way of persuasion. Amidst all the activities of mankind there are three which chiefly have promoted this last factor in human life. They are family affections aroused in sex relations and in the nurture of children, intellectual curiosity leading to enjoyment in the interchange of ideas and-- as soon as large-scale societies arose-- the practice of commerce.[77]

This same spirit is carried by God into other fields of endeavor and is to be imitated by mankind. The perfect ruler is not to govern by mere law, because laws are general "making no allowances for individual variations."[78] Every case must be judged on its own merits. Thus, magistrates must rule by reason, not merely by law. Just as creation (from the Platonic point of view) is "an operation by God upon the receptacle....not an act of brute force but persuasion," winning over the Receptacle to the divine purpose, so man should attempt to exert his acts in the spirit of persuasion.

The writer's favorite contention that the Timaeus is Plato's Preface to Morals is well supported, not only by the fact that the Timaeus is the second member of (at least) a trilogy,[79] but by several references in both the Republic and the

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77. Whitehead, AI, 108, 109.
78. Demos, PP, 109.
79. The Critias, of course, is intended as its sequel.

Laws. In the former work, the wise legislator is described as a person who does not impose laws by fiat but "introduces them with a preamble explaining the reasons necessitating these laws."[80] It is the wise teacher who relies on persuasion. In the latter work, Plato introduces the wise physician who gives no prescription until he has gained the patient's consent. Only then, "while securing the patient's combined docility, by persuasion, does he complete the task of restoring him to health."[81]

That Plato, throughout the course of his literary career developed a rather thorough theodicy is made evident by a brief survey of his works. Ardent questionings of men were not to go unanswered and thus stimulate moral agnosticism and skepticism. The solution of the problem of evil offered in the Timaeus is the basic metaphysical analysis which he makes of the problem. Here, evil is said to be due to the operation of errant cause. Furthermore, as Demos has observed, evil may be considered as unreal. "Things are unreal to the extent that they are evil."[82] Or again, the character of evil is only an appearance in things. "All things are really good; the appearance of evil arises from one's failure to perceive the whole scheme of things."[83] From another of Plato's dialogues, one can gather that evil is

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80. Jowett, DP, Rep., 548B.

81. Jowett, DP, Laws, 720C,D.

82. Demos, PP, 116.

83. Jowett, DP, Laws, 903C.

accounted for by the absences of God from the world [whether these absences are to be taken literally or not is a moot question.], "whereby the world takes charge of its destiny."[84] The world is given over to innate desire and fate, "to the bodily element, of which it partakes, to its primeval condition of disorder." Thus, as is the case in the Timaeus, the Politicus views evil as the innate tendency of the cosmos. As for the Theaetetus, there it is found that evil is accounted for as a necessary logical opposite to good. "Two patterns are set up in the world, the divine, which is most blessed, and the godless, which is most wretched."[85] The Philebus gives the somewhat unusual suggestion that evil comes from an "independent cause of separation, in addition to God, who is the cause of the mixture."[86] This dualism is made explicit, Demos observes, in the Laws where the hint is "elaborated into the doctrine of two separate gods, the one the cause of the good, and the other, the cause of evil in the world."[87]

Actually, Plato has presented two, somewhat distinct theodicies. First, evil is confusion and results from a neutral course. Secondly, "evil is a form and actual evil results from an evil cause." While both of these views are in a sense com-

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84. Jowett, DP, Pol., 274A, 272E, 273B.

85. Jowett, DP, The., 176E.

86. Jowett, DP, Phi., 23D.

87. Demos, PP, 116.

patible with the metaphysics of the Timaeus--"confusion," "neutral cause" sound very much like "errant cause"--the latter view which posits a surd evil seems to go below the surface of mere "confusion." Furthermore, this latter view is closer to the metaphysics of the Timaeus where the foreground is occupied with a discussion of the two ultimates, Reason and Necessity. Obviously, on the basis of these scattered references, in his several writings, one must conclude that Plato's thought harbors an internal contradiction. Plato never seems to have cleared it up for he was still holding to it when he penned his last great work, the Laws.[88] Whatever may be the internal difficulty, however, it is important to note that Plato's thinking on this score grows out of a basic metaphysical conception of God and the world. It is such a line of thought which is basic to the Politicus, the Phaedrus, the Critias, and perhaps finds its most complete expression in the Timaeus. These are outstanding instances of Plato's belief in metaphysics as the στοιχεῖα for any supplementary observations on government and morals.

Not only does reason aim both at public and private good but it is expressed ideally in moderation.[89] The latter pages of the Timaeus give wide place to this thesis. To be sure, most of Plato's physiological and medical knowledge has long since been superseded. Yet, the principles herein enunciated are of

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88. Jowett, DP, Laws, 896E, 897D.

89. Bury, Tim., 71A.

very practical significance. Ideally, man should seek a proper symmetry between body and soul. Certainly, the writer would be wary of stating categorically that disease comes as a result of conflict between body and soul. And yet, there is a very significant principle that is implicitly stated here. Physical debility can very often cause a pathological personality. Conversely, the absence of reasoned control of the body will open the way to dissipation. Plato's plea is basically for the reasoned, the rational life. There is much more to be said for this principle than is usually conceded in many medical circles.[90]

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90. Bury, Tim., 87E-88C; Demos, PP, 345-379.

CHAPTER V

FINDINGS AND CONCLUSIONS:

THE PERMANENT VALUE OF THE *TIMAEUS* AS A COSMOLOGY

The distinction between a cosmogony and a cosmology: its relation to the problems raised by the Cornfordian and Taylorian approach. As stated earlier in this study, the basic purpose of this study has been to ascertain whether or not the *Timaeus* rightly may be considered a serious attempt on Plato's part to furnish the scientific-philosophical world with a genuine cosmology. Therefore, it may be well at this point to distinguish between a cosmogony and a cosmology since a thorough understanding of some of the criticism which has been directed toward the *Timaeus* rests on a careful discrimination between these two terms. Occasional references have been made to these two words, and now as the end of this study approaches and an inventory of findings together with an evaluation of these findings is made, it becomes imperative that they be carefully defined before being applied to the Platonic dialogue under consideration.

Webster's New International Dictionary (Second Edition) has the following two entries.

> Cosmology: κόσμος plus λόγος. That branch of metaphysics which treats of the character of the universe as an orderly system or cosmos; also a treatise relating to the structure and parts of the world system.

> Cosmogony: κόσμος plus γίνεσθαι 1. The creation, origination, or manner of coming into being, of the world or universe. 2. A theory or account of the origination of the universe; also such theories considered as a department of knowledge.

Thus, while there are metaphysical elements in both types of works, the writer would suggest that the term "cosmogony" be applied only to uncritical observations such as those found in the Genesis hymn of creation, and the term "cosmology" to a more critical and intentionally metaphysical treatment such as the Timaeus.[1]

That Plato has combined both the scientific and the poetic elements in his study does not need demonstration. The writer agrees with Professor Whitehead when he says that

> To the modern reader, the Timaeus, considered as a statement of scientific details, is in comparison with the Scholium [of Newton] simply foolish. But what it lacks in superficial detail, it makes up for by its philosophical depth. If it be read as an allegory, it conveys profound truth; whereas the Scholium is an immensely able statement of details which, although abstract and inadequate as a Philosophy, can within certain limits be thoroughly trusted for the deduction of truths at the same level of abstraction as itself.[2]

Yet from the mass of evidence to which reference has been made here and there throughout the pages of this study, the writer feels free to regard the Timaeus as a cosmogonous cosmology. That is, Plato is primarily concerned with the presentation of a scientific-philosophical interpretation of the cosmos; always

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1. Cf. Burns, Art. (1914).

2. Whitehead, PR, 142.

the poet, however, Plato is unable to resist the temptation to color his study with the metaphors of poetry.[3]

As a cosmology, the Timaeus presents some of the basic problems of reality, problems which will eternally demand the careful consideration of mortal man. To these problems, in veritable cosmological fashion, Plato has ventured to provide an answer. In these two accomplishments lies the permanent value of Plato's Timaeus.

Not satisfied with a limitation of this study to the text of the Timaeus, the commentaries of two of the greatest English students of Plato were chosen as basic reference works. As was to be expected, each of these scholars had his own particular approach and interpretation of the dialogue. Taylor at times has been so concerned with the minutiae of Greek grammar and historical correlations--both important to be sure--that he has produced a book which is atomistic in its survey of the Timaeus. At one moment the student is impressed by the thoroughness and carefulness of Taylor's scholarship, at the next, he is disappointed to find Taylor riding his hobbies, the "Taylorian heresy" (as Cornford calls it), explicit correlations with Pythagoreanism, Aristotelianism, and the philosophy of Whitehead, and implicit correlations with traditional Christian theism. Professor Cornford, on the other hand, is often hypercritical of Taylor's work yet succeeds in presenting a more

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3. Cf. Edman, Art. (1936).

synoptic and therefore more readable commentary on the dialogue. While Dr. Taylor's concept of God is probably closer to Plato's, Cornford is more careful to observe the limitations which necessity places upon Plato's God. Dissatisfied with both concepts of God which Taylor and Cornford had presented, the writer has taken it upon himself to offer a critique and synthesis of these two views.[4]

Probably the most unsatisfactory feature in both commentaries of Taylor and Cornford is an almost total neglect of a problem which, in the mind of the writer (as in the mind of Plato), constitutes the main thrust of the Timaeus. This problem has been discussed somewhat extendedly, under the heading "Persuasion: the mediating factor between necessity and persuasion." To be sure, Cornford, at the very close of his work has made a very suggestive comparison of this basic problem with the conflict of Zeus and Destiny as depicted in the Oresteia of Aeschylus.[5] If Cornford was so impressed by this parallel, if he believes as, he says, that this is

> the way to peace, for Plato as for Aeschylus, his thorough reconcilement of the rational and the irrational, of Zeus and Fate, of Reason and Necessity, not by force but by persuasion,

why has he not seen fit to present a worthy analysis of this key problem of Plato's argument? It is the contention of the writer

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4. Cf. Chapter IV, p. 55ff.

5. Cornford, PC, 361-364; Oates, CGD, v. I, 163ff. Cf. particularly the close of the Eumenides.

that no piece of scholarly investigation is complete until it has made both an analysis and a synoptic synthesis of the problem. It has been with this goal in mind that the writer has made this study, in part at least, a synthesis of the two interpretations of Professors Taylor and Cornford. In addition to this, the writer has found it practicable to offer a suggestive thesis that the Timaeus constitutes the metaphysical basis for Plato's theoretical and applied ethics.[6] This is another possible problem which Taylor and Cornford might well have treated.

In summary, the writer finds (1) that the "Taylorian heresy" (together with its corollaries) is interesting yet both unnecessary as well as lacking in conclusive evidence; (2) that Taylor's view of God, while nearer to the God of Plato than the emasculated god of Cornford, is unnecessarily Christianized; (3) that Cornford's treatment of Reason and Necessity is commendably frank in its willingness to face the two undeniable "givens" of metaphysical reality; (4) and that both Taylor and Cornford are deficient in providing adequate studies of both persuasion--the mediating factor between necessity and persuasion [interpreted by the rational as a principle of rational direction]--and the ethical implications of the Timaeus as a "preface to morals."

The Timaeus through the centuries. That the Timaeus has exerted a profound influence through the centuries is amply demonstrated by numerous works which owe their inspiration to this profound dialogue of Plato. The early years of the Christian era witnessed the production of Plutarch's Moralia, several

essays of which owe much to the Timaeus, and Philo's De Opificio Mundi, as well as numerous minor works of the Neo-Platonic school. During the middle ages, the Timaeus exerted a tremendous (if not always a too critical) influence upon such men as Thierry de Chartres and Bernard Sylvester de Tours. Probably the best summary of this influence is given by Dr. Étienne Gilson in La philosophie au moyen age.

> Dans son De sex dierum operibus, fortement influencé par le Timée, Thierry s'efforce d'etablir l'accord entre la philosophie de Platon et le récit de la Genése. Il enseigne la création de la matière en assimilant le Père à la cause efficiente, le Fils à la cause formelle, le Saint-Esprit à la cause finale et les quatre éléments à la cause materielle.
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> Bernard Sylvestre, où de Tours, a rédigé son De mundi universitate sive Megacosmus et Microcosmus sous cette meme influence de Timée que nous retrouvons partout présente dans les milieux chartrains. Dans le premier livre la Nature se plaint et se lamente près de la providence divine de la confusion où se trouve la matière première et la prie d'ordonner le monde avec plus de beauté. La Providence y consent volontiers et, pour accéder à ces prières, distingue au sein de la matière les quatre éléments. Tel est l'objet du Mégacosme. Dans le second livre, ou Microscosme, la Providence s'adresse à la Nature, célèbre l'ordre qu'elle vient d'introduire dans le monde, promet de former l'homme comme couronnement de tout son ouvrage, l'homme est alors formé avec les restes des quatre éléments.[7]

More recent days have seen the publication of Paul Elmer More's Hellenistic Philosophies, Demos' Philosophy of Plato, and particularly Whitehead's Principles of Natural Knowledge, Process and Reality, and Adventures of Ideas as well as the more specialized commentaries of Gomperz, Robin, Taylor and Cornford.

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7. Gilson, PMA, 61-63.

Thoroughly impressed with the influence and the importance of the Timaeus, Alfred North Whitehead writes as follows.

> The history of philosophy discloses two cosmologies which at different periods have dominated European thought, Plato's Timaeus, and the cosmology of the seventeenth century, whose chief authors were Galileo, Decartes, Newton, Locke. In attempting an enterprise of the same kind, it is wise to follow the clue that perhaps the true solution consists in a fusion of the two previous schemes, with modifications demanded by self-consistency and the advance of knowledge.[8]

Thus it is that this great Anglo-American philosopher-mathematician has presented his own cosmology in a set of lectures that have "been framed in accordance with this reliance on the positive value of the philosophical tradition." Whitehead's contention that the roots of all significant modern philosophy stem from Plato receives strong support when it is realized that the Timaeus alone has set a plurality of the basic problems of contemporary philosophic thought.[9]

A personal evaluation of the Timaeus. It is the enthusiastic conviction of the writer that the Timaeus is a fair representation of Plato's system of metaphysics. While this dialogue is possibly not on a par with the Apology or the Crito from a literary standpoint, and while it may lack some of the more dramatic potentialities of certain other dialogues of

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8. Whitehead, PR, ix.

9. Whitehead, PR, 63. "The safest general characterization of the European philosophical tradition is that it consists of a series of footnotes to Plato." Cf. also Taylor's splendid study of the broader influence of Platonism as a whole. Taylor, PII.

Plato, the Timaeus stands out as Plato's supreme attempt to furnish the learned world with a seriously intended cosmology. A basic Weltanschauung for Plato's Lebensanschauung, the permanent value of the Timaeus rests in its successful presentation of a cosmological basis for a theoretical and practical ethics for mankind. Its theme is life, the generating principle of life--not merely the life of one man or even of humanity, but the genesis τοῦ παντός , a fit subject for any philosopher.[10]

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10. Cf. Bury, Tim., 27C.

ABSTRACT OF THE THESIS

I. Recognizing that the Timaeus of Plato has been subjected to a number of varying interpretations throughout the centuries, the preliminary task facing the writer has been the determination of the basic line of argument used in the development of the dialogue. Not wishing, however, to confine himself to a merely subjective interpretation of Plato's metaphysics, the writer has selected the two great modern commentaries on the Timaeus--those of Professors A. E. Taylor and F. M. Cornford--as furnishing an excellent basis not only for a contrast and appraisal of variant interpretations of the dialogue but as providing a stimulating background against which the writer may offer his own attempt to deal with some of the problems raised by Plato. With each of these subsidiary problems in mind, the writer has attacked the basic problem of this project--indeed, the stimulating purpose of this study--, i.e., a decision as to the permanent value of Plato's Timaeus as a cosmology. In Chapters I through IV, the method employed has been that of analysis. Chapter V seeks to present a synoptic Gestalt of the study as a whole.

II. Upon making an analytical survey of the argument of the dialogue, the writer finds that Plato has used the introduction of the work as merely the dramatic back-drop against which the ensuing cosmological discussion is presented. The discourse which is delivered from the lips of Timaeus is intended as a serious διατριβὴ περὶ τοῦ παντὸς λόγους. This attempt to

interpret the universe treats the soul of the world, the products of reason, the things which come of necessity, the interaction of reason and necessity, and, finally, the significance of the making of man.

III. Distinctive principles of interpretation on the part of Professors Taylor and Cornford are immediately revealed in their treatment of the historicity of the discussion portrayed in the dialogue. Professor Taylor defends the rather radical thesis that the cosmology presented is that of Timaeus and not the thought of Plato himself. On the basis of this very radical approach, Taylor proceeds to interpret the dialogue in terms of Christian monotheism (Particularly is this true with reference to the demiurge.), Pythagorean metaphysics, and the terminology of Professor Alfred North Whitehead's twentieth-century philosophy of science. Professor Cornford, in contrast, is quick to cry "heresy" and to oppose Taylor's interpretations (particularly those of the demiurge, the execution of the works of reason, the world-soul, necessity or the concept of the receptacle, time, space, and the interaction of reason and necessity in the constitution of the human organism).

IV. In criticism of the varying approaches taken by Taylor and Cornford, the writer finds that Cornford's objection to "the Taylorean heresy" is justified, there being no conclusive evidence to prove that Timaeus either was or was not an historical personage or that the doctrines set forth are a revival of fifth-century Pythagoreanism. While, to be sure, there is,

obviously, some sort of an attempt to adapt Empedoclean biology to Pythagorean mathematics--this, in spite of Cornford's attempt to dispose of the theory in a wholesale manner--, the writer finds it prudent to consider the Taylorean approach--and this, in spite of the splendid array of scholarship--simply a possible yet questionably probable hypothesis. To build an elaborate argument upon the shifting sands of higher criticism is dangerously suspicious procedure. Taylor's attempt to retranslate parts of the Timaeus into the Whiteheadian terminology is also regarded with some misgivings. In this instance, Taylor has produced more of an eisegesis than an exegesis. With reference to the demiurge, it is found that while Taylor too often is prone to interpret this concept in terms of Christian theism, his view of Plato's God is much more satisfactory than the emasculated god of Cornford.

Dissatisfied with both the interpretations of Taylor and Cornford of the role of persuasion as the mediating factor between reason and necessity, and their almost complete neglect of the ethical implications of the Timaeus, the writer has attempted a fresh study of these two problems. Rational direction is suggested as a more adequate as well as a more consistent concept than the Platonic persuasion as the mediating principle between the rational and irrational givens of the universe. With reference to the possible ethical value of the dialogue, the writer offers the thesis that Plato intended his

metaphysics to be a foundation for moral practice. In this sense, the Timaeus may be regarded as "a preface to morals."

V. In summary, the following findings and conclusions are offered.

1. Plato, primarily concerned with the presentation of a scientific-philosophical interpretation of the cosmos is, nevertheless, also a poet unable to resist the temptation to dress his observations in the clothing of literary metaphors. It is thus that the Timaeus should be regarded as a cosmogonous cosmology.

2. The "Taylorean heresy," together with its corollaries, is an interesting hypothesis yet is both unnecessary as well as lacking in conclusive evidence.

3. Taylor's view of God, while nearer to the God of Plato than the emasculated god of Cornford is unnecessarily Christianized.

4. Cornford's treatment of reason and necessity is commendably realistic in its willingness to face the two undeniable "givens" of metaphysical reality without implicitly resorting to Christian theism as the alleged Platonic solution.

5. Both Taylor and Cornford are deficient in providing adequate studies of both persuasion, the mediating factor between reason and necessity, and the ethical implications of the Timaeus. The writer finds the principle of rational direction to be a more adequate concept than the Platonic persuasion, and the importance of the ethical implications of the

dialogue expressed in the phrase which would describe the *Timaeus* as Plato's "preface to morals."

6. A basic *Weltanschauung* for Plato's *Lebensanschauung*, the permanent value of the *Timaeus* lies in its successful presentation of a cosmological basis for a theoretical and practical ethics for mankind.

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